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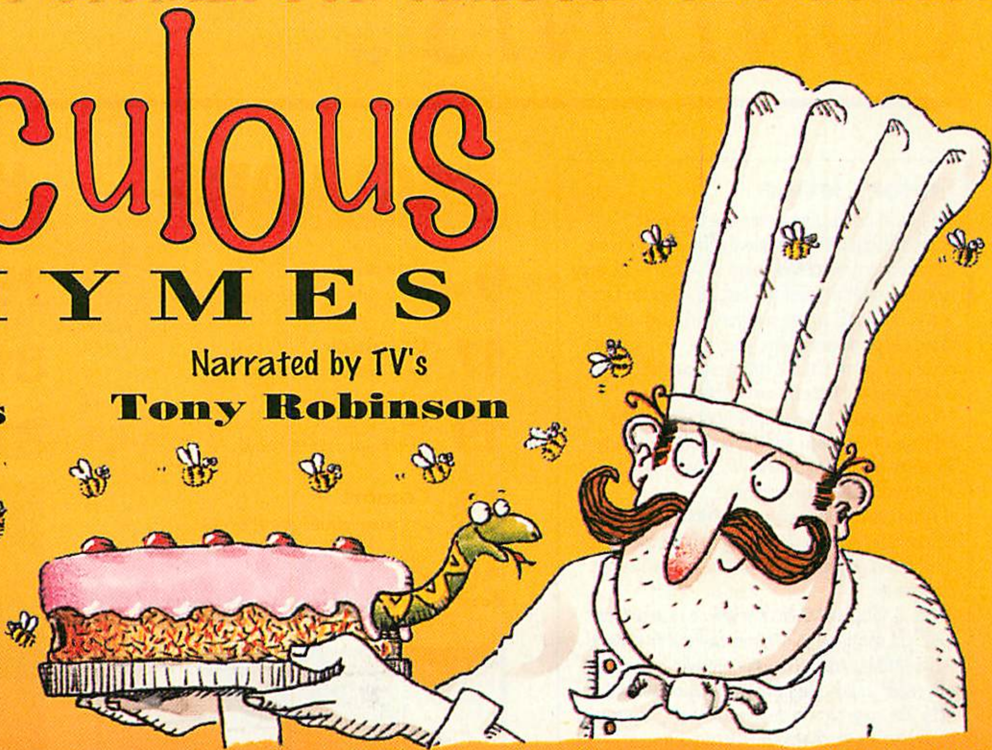
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Editor's letter

We live in interesting times but the most uninteresting thing is the way the doom-sayers continue to predict the death of Acorn — as they have done for at least the last 10 years. In fact it never ceases to amaze me how they trot out the same old phrases year in, year out, and it never occurs to them that the identical predictions of yesteryear still haven't come true.

On the other hand I publicly predicted the collapse of the Atari and Commodore markets about two years ago. And where are they now? A ghost of their former selves.

Acorn have changed, unquestionably for the better, they're not pretending to be something they're not anymore, and instantly they have blossomed.

The future for Acorn as a whole is excellent, ARM Ltd continue to expand and the first new StrongARM is rolling off the production line as you read; Online Media is trucking on with the STBs, the new Oracle deal is excellent, the fact is that the success of Acorn is assured.

We've been right all along.

Steve Turnbull

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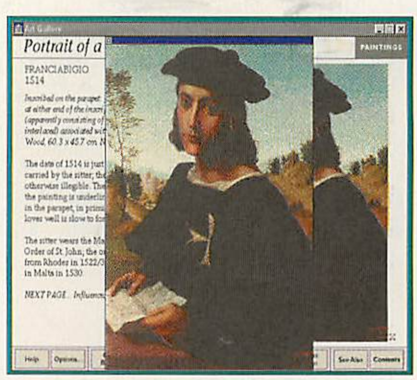
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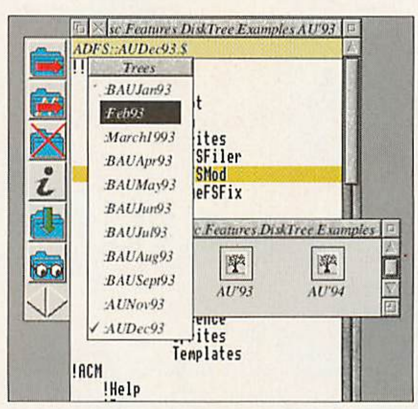
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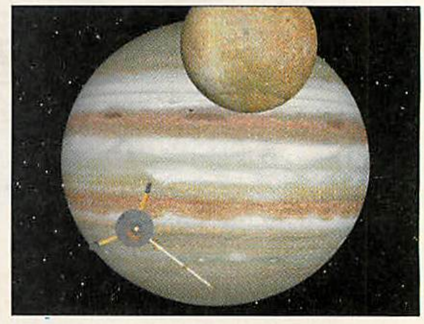
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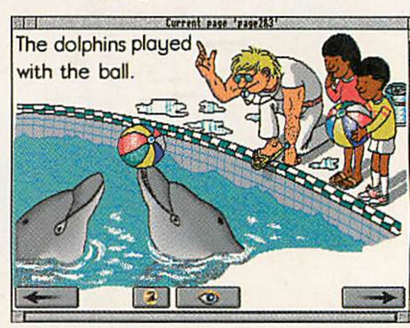


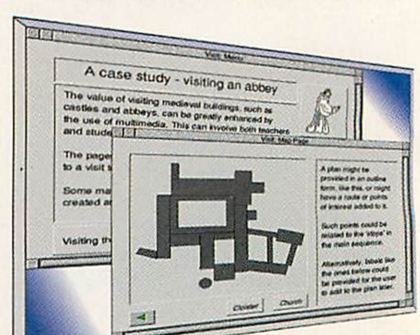


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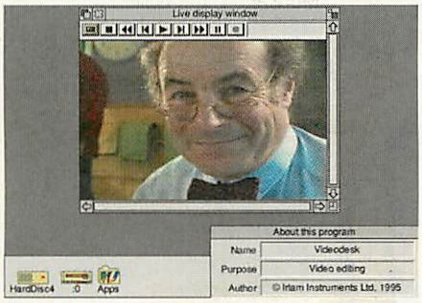
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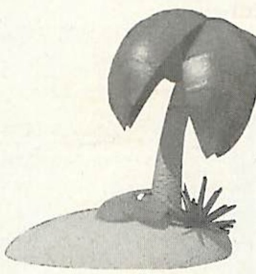


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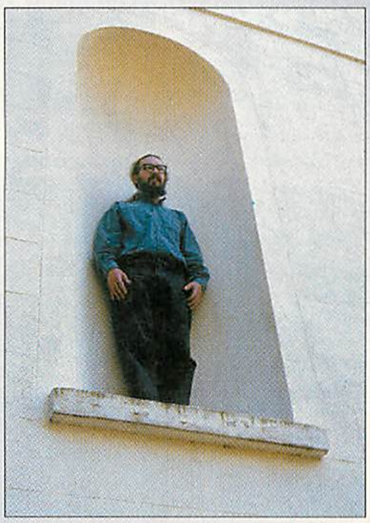


FEATURES









Next month in Acorn User

A quick reviews special, in the last few months we've had dozens of smaller products landing on our doorstep, so we're going to blitz them so you can see what's available.

Plus we have interviews with Aaron Timbrell, Fonts wizard, and Jason Tribbeck; a special feature on Acorn Australia from world-roving reporter Mark Moxon; and a look at the 586 PC card.

On the cover disc, along with all the regulars, will be a superb new game, Swarm from Matthew Bloch. Don't miss it.

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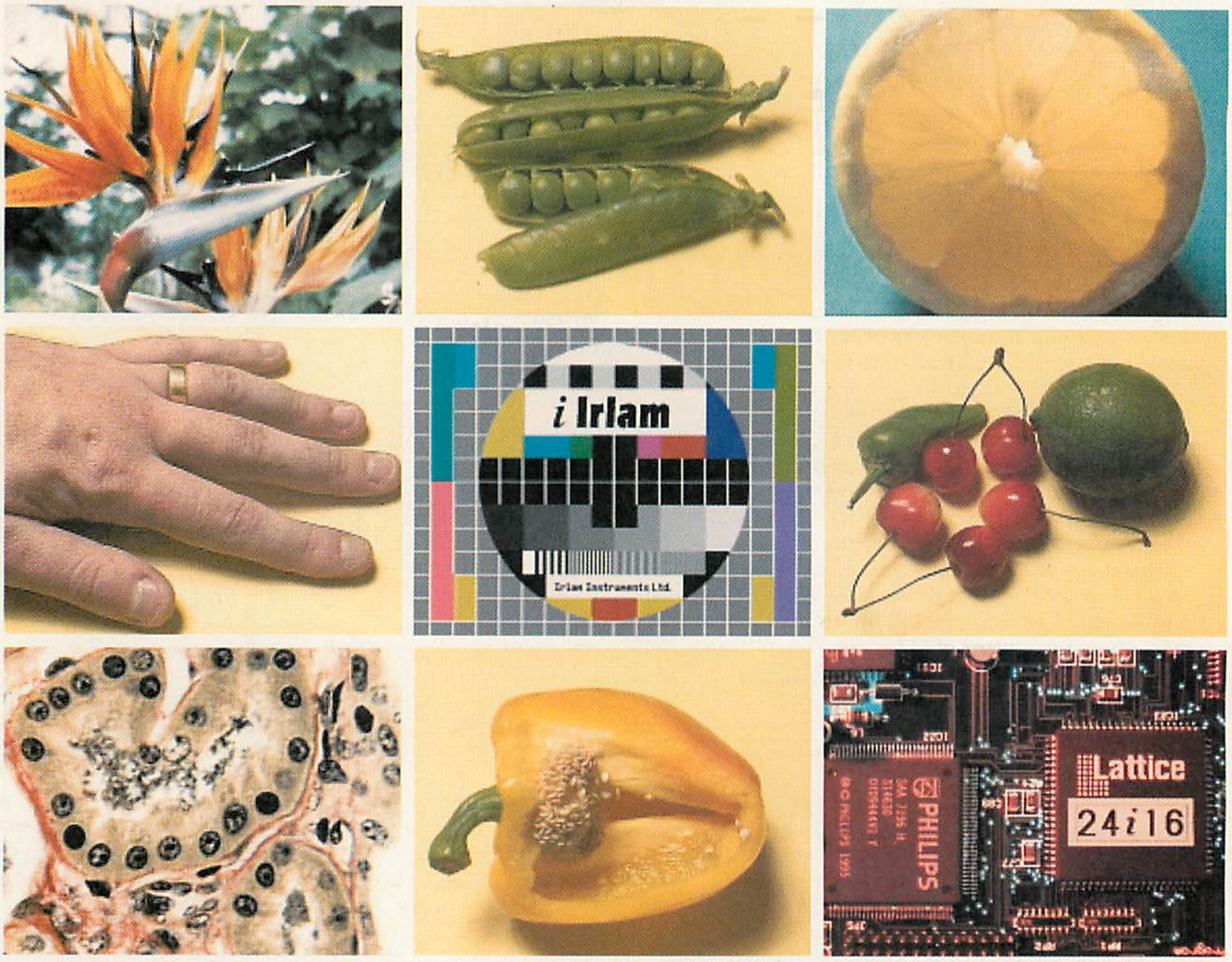
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News

Acorn seeks the meaning of its existence



AS exclusively previewed in last month's issue, at BETT '96 Acorn launched a major new initiative called No Limits to Learning. Acorn's aim through the initiative is to deliver innovative computer products for tomorrow's learning needs. No Limits to Learning was rolled out in three directions: a display of varied multimedia systems — including Online Media Set Top Boxes (STBs), called the MediaRange, all finished in eye-catching black.

Secondly Acorn published a No Limits to Learning white paper on the prospects for learning systems of the future and finally, announced it was to hold a special conference which took place at the end of January in Northampton to discuss the issues raised about No Limits to Learning and the MediaRange. Mike O'Riordan, director of Acorn Education, summed up his divisions initiative with a neat jibe at the expense of Microsoft's current slogan: "The Acorn MediaRange is not just about where you want to go today, it's about where you want to be tomorrow."

No Limits to Learning challenges the conventional view that most learning takes place within the school gates. The advent of new technologies, including communications and computing and especially multimedia mean that learning, with the help of a computer, can take place quite effectively almost anywhere.

Learning using IT outside school will be a useful complement to traditional classroom teaching. Portable computers can be used on field trips for data logging as well as reference, many families now have computers at home and if the interactive TV revolution happens, there will be even more demand for education at home.

Acorn's view is that it has many of the fundamental components which will be required to build effective computing solutions for the new learning strategies pointed at by No Limits to Learning. These components include good multimedia abilities, support for the Internet, Online Media STBs and portable computers in the form of Acorn Pocket Books.

The Acorn MediaRange was put together to demonstrate some of Acorns ideas on future learning needs. These include the MediaSurfer, essentially an Online Media STB with a World Wide Web browser built in. This would satisfy the learning requirements of exploring, watching and noting.

MediaSurfers would primarily be found in the home, though some suggest they will find there way into IT centres within schools too. To add CD ROM to your MediaSurfer, you'd need the MediaSelector product. This satisfies the learning requirement to interact, choose and do. Acorn indicates that both these MediaRange ideas will be commercial products available in the Autumn. Other MediaRange products are focused applications using Acorn products like the A7000, Risc PC, Pocket Book, networking, etc.

Despite appalling weather and treacherous driving conditions, the No Limits to Learning conference, which took place on Saturday January 27 in Northampton, generated a reasonably good turnout of journalists, teachers, IT coordinators and developers. After a morning session covering the possibilities of IT in education, including a session on interactive multimedia using Online Media technology, there were a serious of break-out discussion sessions. The conclusions revealed were most illuminating, though not entirely palatable.

To your reporter, who is not admittedly an expert on the finer points of our modern education system, it was certainly rather surprising to discover that IT is more often than not a missed opportunity in our schools. Conclusions at the conference included that many schools either had inadequate IT investments, or misguided investments. IT in education also seems to have hit a brick wall, with just 35 percent of teachers actually utilising IT actively, a figure which has remained constant throughout the 1990s.

Many teachers apparently don't know how to make the most of their computing resource. Issues like how to evaluate schoolwork completed using computer-sourced information remain stumbling blocks. Apparently many teachers are not confident that they can tell cribbed information from a CD ROM from genuine and original creative work.

There were no prizes for concluding that computing needs to be friendlier and easier to grasp — and that's before you start to exploit more advanced aspects like communications. There was a call from the conference for a more standardised user interface, the analogy being that most cars have their basic controls in the same place.

Geoff Vincent from Online Media even announced vestigial and unofficial plans to propose a new open, scalable and non-platform-specific standard user interface for delivering multimedia via STBs and computers linked to the information superhighway. Apparently emerging standards like the HTML, which is what makes the World Wide Web, for example, aren't good enough.

Others at the conference called for more portable computers, so teachers and even students could take their educational computing resource with them after the end of school bell had rung for the day. Interestingly, this flies in the face of Acorn's current view that there is no commercially viable demand for an Acorn portable computer apart from the Pocket Book. Perhaps the now-shelved Stork portable project will be dusted off to become a MediaTrekker or something like that!

Acorn has certainly succeeded in stirring up an interesting new debate with its No Limits to Learning initiative. More meetings are planned for later in the year, where more debating will undoubtedly take place. *Acorn User* will be following the debate closely and looking out for new additions to Acorn's MediaRange vision.

Ruggedised keyboard from Concept



THE Concept Keyboard Company has introduced a new ruggedised keyboard which is sealed to protect it from liquid spillages. Industrial uses are obvious and the keyboard could also find its place in school laboratories, for example.

A standard QWERTY layout is complemented by 34 direct function keys, making a total of 128. Although the keyboard is designed for PCs, it will work with later Acorn machines like the Risc PC and A7000.

The Concept Keyboard Company, Tel: (01962) 843322, fax: (01962) 841657.

Acorn slips out first details of desktop PC line up

THOSE with sharp eyes will probably have noticed by now that Acorn has listed half-a-dozen Intel Pentium-based desktop PC compatibles in its 'Sneak Preview' leaflet distributed at BETT '96. The leaflet provides information about hardware, software, peripherals and accessories which will be on offer as part of this year's Tesco Computers for Schools scheme.

The PC range starts with an 75MHz 8Mb RAM system with a 540Mb hard disc and reaches to a Pentium 90 with 16Mb RAM, 1Gb hard disc and a CD ROM multimedia bundle. The entry-level model is 'priced' at 4500 Tesco vouchers, slightly more than a Risc PC 600 with 5Mb RAM and a 210Mb hard disc, which is listed at 4400 vouchers.

The top Pentium model will cost you 6300 vouchers and this compares with a 10Mb Risc PC 700 with a 14 inch monitor, 850Mb hard disc and a CD ROM drive all apparently worth 6200 vouchers. Acorn stresses that the voucher values are approximate.

Although Acorn staff at BETT were keen to show us that the Pentium PCs were on the Tesco list, absolutely no further details were forthcoming. To date, Acorn has only stated that it definitely will add desktop PC-compatibles to its product range but that they would only support them for school administrative use. Though quite why an admin computer needs a top-of-the-range sound card was not adequately explained.

However, Acorn also agrees that they would not do anything to prevent a school from ordering a classroom full of Acorn PCs. It's also notable that if the Tesco list is representative of the range Acorn will market, no cheaper sub-Pentium 486-level machines are to be sold. 486 PCs have plummeted in price recently as Intel forces down the prices of 486 chip supplies in advance of the Pentium winning Intel's official stamp of approval as the new entry-level PC chip. Cheap 486 PCs would not have reflected well on the prices of Acorn's ARM-based offerings. There is no sign of any networking support being offered by Acorn at this stage.

Schools which have not registered for the Tesco Computers for Schools scheme in previous years can contact the organisers on tel: (01923) 818495.

Awards galore at BETT '96



John Crick receiving his EC&T Gold Award (Special Needs) for his program Switch Clicker Plus (Arc)

AMONG the award winners at BETT '96 were Brilliant Computing, Yorkshire International Thomson Multimedia and Crick Computing, who each scooped bronze, silver and gold awards respectively. Brilliant Computing won Bronze (special needs) for Claude and Maud, which encourages children to practice letter formation.

YITM's silver award (secondary software) was earned by its Aspects of Religion CD. Crick won gold in the special needs category for Switch Clicker Plus for the Archimedes, a new product aimed at those who can't easily use a keyboard or mouse. All the awards, sponsored by Educational Computing and Technology magazine, were presented by Robin Squires MP, undersecretary of state at the DFEE.

Pentium-class Risc PC card reduced

Aleph One has knocked £50 off the price of its Cyrix 5x86 Pentium-class co-processor card for the Risc PC range. At the same time, support software supplied with the card is being improved. Sound Blaster sound card emulation is being supplied to enable playback of .WAV audio files.

Later this year drivers to provide full support for Windows 95 will be made available. Linux (a low cost form of Unix) support is also set to be improved and Aleph One also says more utilities to promote the exchange of data between the PC and RISC OS personalities of a Risc PC can be expected.

These software updates will be suitable for PC cards supplied by either Acorn or Aleph One, though Aleph One will supply its owners free of charge. Acorn customers can still obtain software updates from Aleph One, though for a nominal charge.

Aleph One, tel: (01223) 811679, fax: (01223) 812713, e-mail: sales@aleph1.co.uk, World Wide Web: http://www.aleph1.co.uk/~aleph1

New version of HTMLEdit from R-Comp

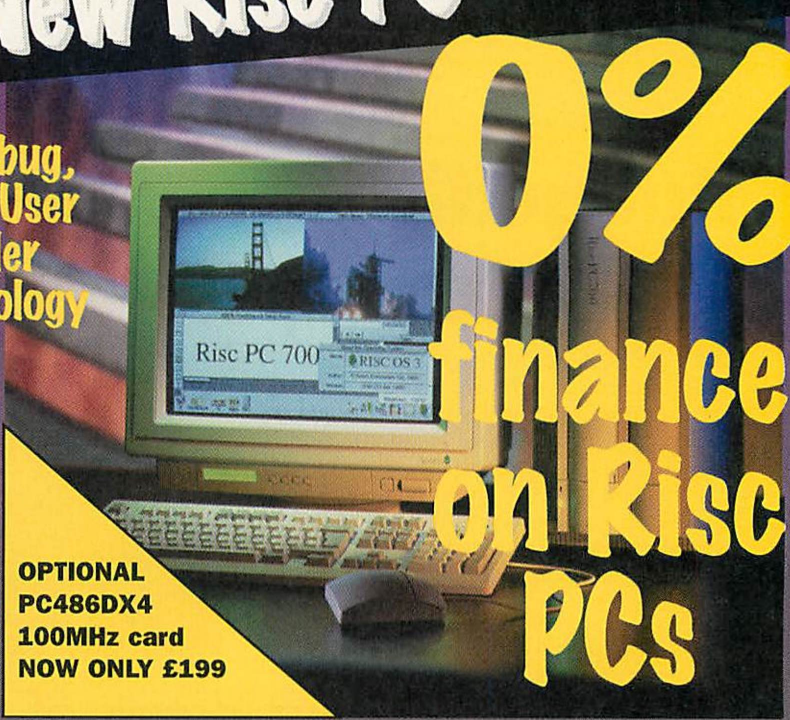
At BETT '96, R-Comp announced that a new version of its web page authoring system would be available some time in the Spring. Browser capabilities are changing constantly and the new version of HTMLEdit will reflect some of the more popular changes, including support for Netscape Navigator 2.0 and HTML 3.0.

To complement HTMLEdit, R-Comp showed Textures, a graphics resource for Web page designers. R-Comp also showed ShortCuts, a suite of utilities which automates commonly used desktop operations like loading programs and opening directories.

R-Comp, tel: (01925) 755043 Fax: (01925) 757377 E-mail: ajr@arsvcs.demon.co.uk.

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Risc PC700 10Mb HD850, with AKF60 monitor	£1692.00

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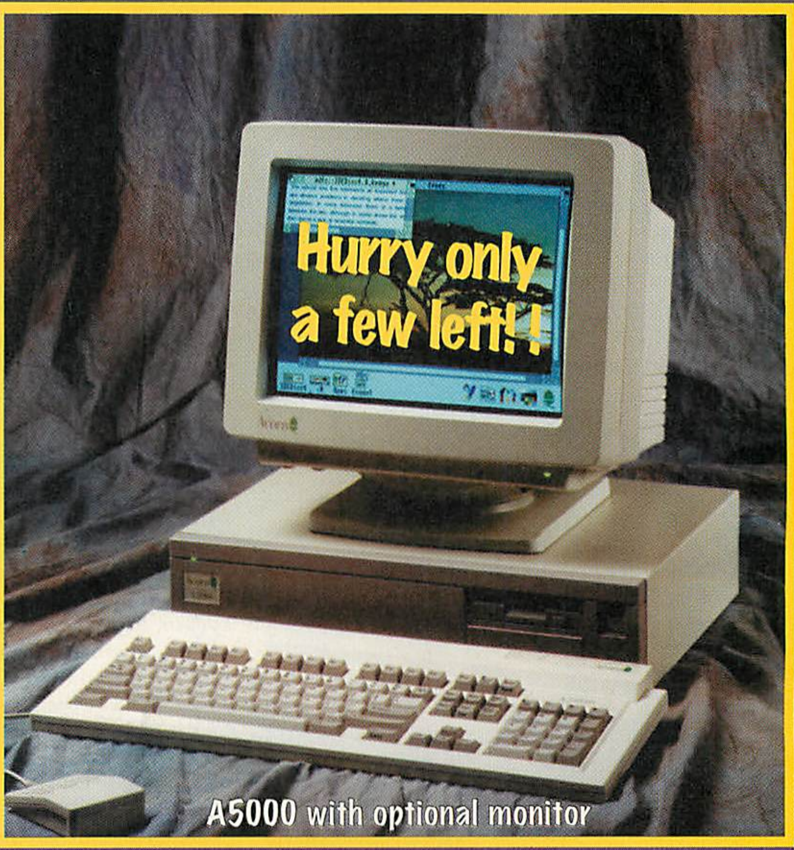
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Oracle's vision on target?

EVERY now and again someone comes up with an idea for a domestic appliance which everyone wants to buy. Examples in this category include the telephone, radio, television, cassette player, pocket calculator and latterly, the video cassette recorder. Mobile phones might go that way one day and you could argue that washing machines and dishwashers will eventually become as universal as some of the other items mentioned.

So what about computers? Statistics indicate that even in the USA, where the penetration of computers in the home is among the highest in the world, only 35 percent of homes have a home computer. This is likely to rise to 60 percent by the end of the decade, but some industry watchers are saying that cost will hold the domestic market penetration of home computers well below 100 percent.

Although performance and features have risen exponentially since the home computer first arrived in the early 1980s, the purchase price of a typical system has stayed constant at around $2,000 or in the UK, about £1,000, for several years. Practically everyone can afford a £25-£50 phone and even those who can't will often find a way of owning a £200-£500 TV or a £200-£400 VCR. A £1,000 home computer is another matter, especially as your investment is likely to be out of date within 2-3 years — unless you buy an Acorn, of course.

Enter, stage left, Oracle and, to the right, the Internet. The latter is cheap — a tenner a month or less plus a local phone call. Some cable TV operators are even providing free connections to the Internet during off-peak hours. However, you still need a £1,000 computer and a further £100 plus for a modem to use the Internet.

The readers of this magazine and the hordes of others which serve the computer-literate community will probably largely take the costs in their stride and be early adopters of new technology like the Information Superhighway, but at best this probably only represents a third of homes and the real number is probably less. So Oracle wants to deliver the Internet for as little as possible, for the price of a TV or a VCR. The most popular figure being bandied about is an Internet terminal for as little as $300 (about £200).

Dr. David Clark, a senior research scientist at the prestigious Massachusetts Institute of Technology (MIT), recently presented his views on the future of the Internet to a gathering of journalists from Europe and we were there too. He points out that in a PC system the monitor alone can cost as much as $300 so the idea of a PC-based Web surfer terminal was unrealistic at current costs. Asked directly whether or not he thought Oracle's vision was viable he answered no ... but he was prepared to be surprised.

Oracle knows that Acorn has experience selling home computers that don't need expensive monitors. Online Media is all about delivering computer information via the domestic TV. On top of that, Acorn's ARM-based architecture is really cheap to make. Considering the economies of scale enjoyed by the PC industry, the fact that Acorn is still around making computers is proof of the cost-effectiveness of the ARM and RISC OS.

Acorn's last attempt to make a cheap computer for the home was the now-discontinued A3010. Ignore Beebug's recent knock-out prices — Acorn probably needed to sell the A3010 for at least £300 to make it pay. But consider that Acorn probably never actually made more than a few tens of thousands of these computers a year, plus the A3010 did not enjoy some of the advanced production cost benefits which have since been developed by Online Media for its set-top box (STB).

Oracle's scale of vision is a market worth tens of billions of dollars, representing tens of millions of hardware units. This scale could knock a third off prices you'd expect from Acorn's products — or even more. So a £200 Internet-ready STB is probably a viability reality. The other main areas of concern lie in the fact that an Acorn-made Oracle web surfer is not likely to be Microsoft software compatible, will there be any local storage (disc drives) for the prices and there are some who reject the idea of World Wide Web pages being reduced in quality to suite the lowest common denominator — the standard resolution TV screen.

Will Acorn be up to delivering Oracle's vision? Can the cost targets be met? Will the buying public really buy these new gadgets in the necessary numbers? Will Acorn's anti-aliasing skills surprise the detractors of TVs as a display medium for the World Wide Web? Who knows? The Internet is a fast-moving phenomenon — the World Wide Web, for example, is barely two years old and yet there are supposed to be up to 50 million people around the world using it already. In North America and Europe alone there are some 250 million homes, so you can see the potential is huge.

SJ Research delegates Nexus support

SJ Research has appointed a consortium of third party companies to form two regional sales and support centres to provide Nexus network users with customer support and sales. These days SJ Research is concentrating on working with companies like Olivetti Research and Acorn's Online Media division to develop next-generation ATM (asynchronous transfer mode) network products.

Kim Spence-Jones, Managing Director of SJ Research, said "We are delighted that this consortium has come together to move the Nexus product range forward. This arrangement secures for Nexus customers the continuing high level of support that they have always expected, whilst allowing SJ to concentrate on developing future products."

The two Nexus support centres are: ExpLAN Computers Ltd, in Tavistock, Devon, tel: (01822) 613868; e-mail explan@explan.demon.co.uk, Cumbria Software Systems Ltd in Brampon, Cumbria, tel: (016977) 3779, e-mail sales@cumsoft.demon.co.uk

BT's Office on your arm?

BT has shown a prototype computer you wear on your arm. It has a tiny Casio LCD TV screen, a mouse pad pointing device. An optional extra is a virtual reality headset for viewing the screen privately — it can also display higher resolution graphics more acceptably than the LCD screen.

The BT Office on the Arm interfaces to a GSM digital mobile phone for accessing the Internet or connecting up to your office network. BT's news release didn't mention that a small power station needs to be towed on a little trolley to power the Motorola processor which lies at the heart of the Apple Mac circuitry, on which the design is based.



Seriously, though, BT's little toy serves brilliantly to demonstrate where low power consumption ARM-based technology will be top of the hardware developers' lists some time in the future.

Games, for a good cause

The Devon & Cornwall branch of the Down's Syndrome Association, in conjunction with Network 81 Cornwall and residents of Mencap Homes Foundation houses in the West Country are appealing to *Acorn User* readers for home-grown Acorn games software.

The programs mustn't be too complicated, too fast or be success-dependant in order to be fun and stimulating. Software gathered will be used to help educate children and adults alike who have learning disabilities.

If you or a friend have some interesting home-grown games kicking about which never quite made it into the commercial world, then contact:

Bob Black, Scheme co-ordinator, 4 Fairfield Road, Falmouth, Cornwall, TR11 2DN, tel: (01326) 316541, fax: (01326) 377771, e-mail: bob@include.demon.co.uk

Apologies

On page 11 in the February issue, the news item about the Mouse Presenter contained some errors. We would like to confirm that the mouse presenter was developed in close collaboration between Design IT and WECC, Design IT designed and is manufacturing the Mouse Presenter and it is available from both companies. The price of the Mouse Presenter is actually £84.95 + VAT, which includes the switch sockets.

Contact Design IT on (01902) 894775.

Suffolk Acorn Risc Club

SARC is a friendly group for Acorn users in Suffolk, it has about 50 members at present comprising a mixture of experts, programmers, novices, business users, enthusiasts, students and teachers. New members are always welcome, whether experts or beginners. A range of events is organised, on March 14 there is a musical evening with Sibelius Software and on April 11 you can learn to design your own newsletter. Meetings are held on the second Thursday of each month at 7pm at the Ipswich Central Library.

For further details contact Andy on (01473) 216424/214814.

New low cost colour printer from Integrex



INTEGREX has launched a new low cost colour 300x600dpi ink-jet printer called the Betajet C. Priced £139 + VAT, or £159 + VAT when supplied with a 70-sheet paper feeder, the Betajet C comes with free banner printing software. 35 metre paper rolls can also be accommodated.

The standard colour ink cartridge can be replaced with a high-capacity monochrome cartridge for extended black and white print runs. The printer is Colourjet 132 and HP DeskJet compatible and comes with Acorn drivers too. *Integrex: tel: (01772) 654654, fax: (01772) 652233.*

ANT revs up Internet offerings

ANT Limited has announced a new Internet server software package and revealed that its Internet Suite is to be the officially preferred offering for Acorn-equipped schools accessing BT's recently revised Campus World Internet service for schools. BT will supply a special Campus World ANT Internet Suite edition to its Campus World customers.

The new ANT Internet Server, which is scheduled to ship in the second quarter of this year, will be a CD ROM-based software package designed to be installed on a Windows NT-based server, like Acorn's own SchoolServer product and those of a number of other third party vendors.

ANT says the software's aim is to simplify the setting up of an Internet server and is designed specifically for the needs of schools, so access security features are prominent. ANT's Alex van Someren explained: "Providing full Internet access requires time and expertise, but the ANT Internet Server removes much of the burden from network administrators and its security features address concerns about the Internet."

ANT's package includes servers for e-mail, Usenet news, Web pages, FTP and remote access dial-in for authorised users. The software will support either a dialled or direct connection to the Internet service provider and comes with a router, gateway and security firewall. Pricing will determined closer to the time ANT anticipates shipping the product.

ANT Limited, tel: (01223) 567808, fax: (01223) 567801, e-mail: sales@ant.co.uk, World Wide Web: http://www.ant.co.uk/

Competition winners

Congratulations to the winners of our two competitions.

The extra pieces in the Picture Puzzler competition were 3 and 6 and the lucky people who have won a copy of *The Big Picture* from Longman Logotron are J E Mansfield of Surrey, Andrea Town of Leeds, Mrs D I Mead of London, Mr N M Brown of Nottingham and Mr N Mosson of Cheltenham.

The answer to the New Year Hamper competition was 'eight maids a milking' plus the rest. A hamper full of goodies is on its way to Angela Smith of Southampton, R J Roome of St Albans and P Wade of Blackburn. There's a mouse mat for the 10 runners-up who are Michael Aves of Chelmsford, John Lahr of London, D C Davies of Neath, Mrs Coverdale of Petersfield, Conall Patton of Derry, Mrs Batty of London, Mr R R Thomas of Herts, Allan Bennett of Romford, Katie Welsh of Glasgow and C P Coombs of Bristol - thank you for your special Acorn version!

Congratulations to you all, the prizes will be with you soon.

Acorn

2Mb A3010 computer plus £300 worth of 1st class Acorn software for only £185

SOFTWARE OPTIONS:

OPTION 1 - **DISCOVERY BUNDLE.**

Advance. Integrated database, spreadsheet, wordprocessor and graphing package.
Magpie. Multimedia authoring package.
The Crystal Rain Forest. Environmental adventure software incl. an introduction to Logo.
Mouse mat & 1 year on-site warranty.

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Easiwriter. Wordprocessing made easy.
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HARD DRIVE SYSTEM: 60Mb hard drive, 14" MPRII 0.28mm monitor. *Only £265 extra.*

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Delivery £9 per computer. Prices exclude VAT.
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THE A3010 COMPUTER

The A3010 is ideal for schools, small businesses and, of course, in the home. The A3010 shares the same processor and main electronics as the A3020 & A4000 computers. It has one internal expansion slot, a serial port, two joystick ports and a parallel printer port.

MONITORS

The A3010 supports a wide range of monitors. Our MPRII monitors are suitable for most software, including the above (some older software may not run correctly). Castle Technology can also supply Acorn AKF50 or AKF52 monitors.

THE CASTLE TECHNOLOGY PRODUCT RANGE

Scanflat • from £349
- Flatbed SCSI scanner
- Fits all Acorn computers with SCSI interface
- ImageMaster software included
- Fast scanning speed - 3.6ms per line
- Twain compliant

CD-ROM • from £65
- Supplied with Acorn Driver
- Choice of SCSI or IDE interface
- Free headphones, Photoview & Audioplayer
- Compatible with Kodak Photo CD
- Internally or externally housed

Hard Discs • from £89
- 2.5" or 3.5" sizes
- Fast access of up to 8ms
- 20Mb to 2Gb capacity
- Formatted and soak-tested
- Interface may be required


Scanflat

Light Pen • £199
- Suitable for all Acorn computers
- Menu & select buttons on pen
- Instant response time
- Three colour aluminium or plastic casing
- National Curriculum "input device"

Ergo Keyboard • £99
- Built in wrist support
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Ergo Keyboard

SyQuest Removable Drive • £199
- 3.5" 105/270 Mb capacity
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- Programmable power saving modes
- Internal or externally housed

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- Suitable for all Acorn computers
- Easy to use and manage
- Share CD ROMs, scanners and printers
- The fastest disk sharing system
- Plug-in and go installation

IDE and SCSI Interfaces • from £65
- Designers of interfaces since 1988
- Connect your computer to hard drives etc
- Up to seven devices per interface (SCSI)
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60Mb and 120Mb Hard Drives

for A3020 / A3010 / A3000 (Risc OS 3.1 required)

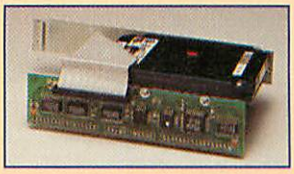
	60Mb	120Mb
A3020	£59.00	£99.00
A3010 incl Interface	£89.00	£129.00
A3000 incl Interface	£89.00	£129.00

FROM £59 excl VAT incl fixing kit

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This is just one of a series of monthly Special Offers from Castle Technology - one of the UK's premier manufacturers and suppliers of Acorn upgrades. Watch out for more price-beating offers! For a full price list and colour brochure call 01728 621222

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Telephone: 01728 621222 Fax: 01728 621179 e-mail: sales@castlet.demon.co.uk



Virus Protection Scheme



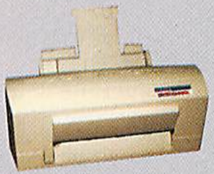
The Pineapple Software Virus Protection Scheme provides the most comprehensive protection available against computer viruses. !Killer together with VProtect will detect and remove all of the currently known 72 families of virus (over 100 viruses in total). Because new viruses are being discovered all the time our Virus Protection Scheme will provide you with 3-4 updates of the software each year. We can also offer immediate advice by 'phone.

Don't wait until you discover you have a virus! Use the software that Acorn themselves use to check for viruses.

A years subscription costs just £28.20 inc vat

Low cost school and county licences available

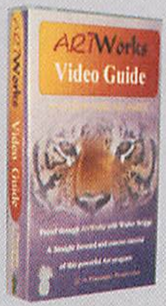
Citizen PRINT*iva* 600C



This brand new colour printer from Citizen uses the latest Micro Dry™ technology allowing high definition printing on a wide range of media. Four separate cartridges allow very economical running costs. Gold, Silver and metallic cartridges available soon!! Colour resolution 600 x 600 dpi Mono 1200 x 600 dpi

Citizen PRINT*iva* 600C £399.00 inc vat

ArtWorks Video Tutorial



A Brand new product from Pineapple is this VHS Video Tutorial covering the use of ArtWorks. Walter Briggs is the tutor for this 1 hour video which shows how to use all the ArtWorks tools and then goes on to show how Walter produced his famous Tiger head picture. Walter also draws an impressive landscape picture which can be copied by those with no artistic talent at all!

ArtWorks VHS Video Tutorial £19.99 inc vat

A4 Colour Scanners



New from Pineapple a low cost A4 flatbed colour scanner from Primax. Supplied with Imagemaster and Twain software this scanner provides the perfect low cost solution to home colour scanning. With a basic resolution of 300 x 600 dpi this scanner is unbeatable value.

Primax with Imagemaster & Twain	**£359.00 inc vat**
As above + Studio24Pro	**£439.00 inc vat**
SCSI II interface + cable	**'phone**

Epson Colour Scanners

These high quality scanners are available to work via the parallel port as well as a SCSI interface. The 8500 & 9000 come with both interfaces fitted as standard. Prices include Imagemaster & Twain.

GT-5000 (parallel)	**£425.00**	**GT-5000 (SCSI)**	**£499.00**
GT-8500	**£569.00**	**GT-9000**	**£699.00**

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Monday - Friday 0900 - 1730

Jack Kreindler puts on his DTP hat as Ovation Pro nears

THIS really is a bit of departure for me. Over the last three years all I have ever written about on the graphics page is bitmaps, refresh rates and suchlike. Now its DTP too!

Thankfully, I already use DTP packages extensively on both Acorn and Mac platforms (much disliking the latter) so it isn't too bad. If you ignore the fact that the Mac seems to have an inbuilt device that senses the exact moment you feel you should save then crashes just before you do, and the fact that you need about 32Mb to use the big packages properly, there are *some* advantages.

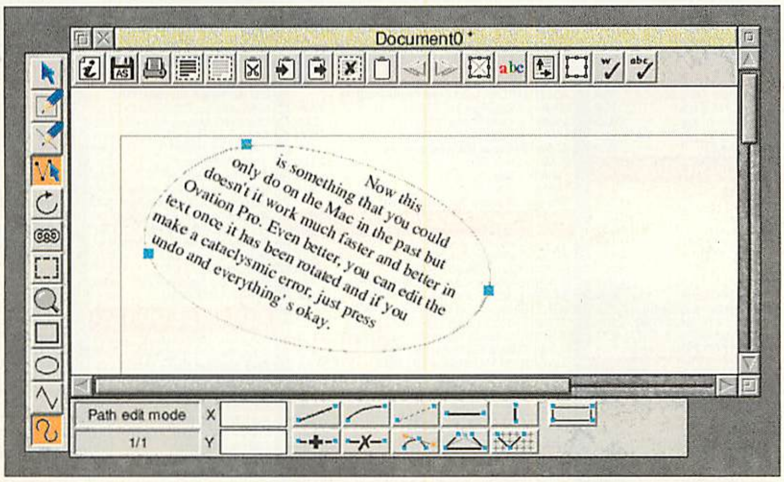
Although Acorn DTP products don't have some of the necessary facilities required by professionals, or features which are useful to the general user, such as rotatable text frames or bezier based irregular frames. Neither is there an undo feature and until now no program has had a macro function. However, *Ovation Pro* – the latest BeeBug product – features all the above plus many more besides.

This program, even in its pre-release form that I have been testing, marks a significant leap forward for the platform for anything from basic to top-end DTP work. Its price, which will be only a tiny fraction of the giant Mac and PC veterans, and its performance, will yield great gains in productivity for the professional user and will make DTP far easier and enjoyable for the lower end users.

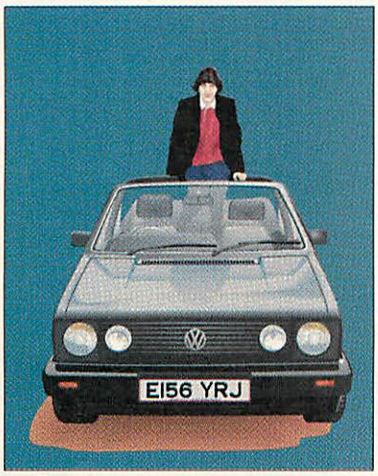
Such things have been long awaited and I'm sure that *Ovation* will take hold of a large proportion of the current DTP market. My personal view about the future of DTP is a little less positive, however. *Ovation* is the only DTP package on the platform that is being rapidly developed and with the inevitable narrowing of the Windows – Mac OS – RISC OS gaps, Acorn applications will face ever increasing competition.

Yet the cost, performance, rendering quality, reliability and ease of use of *Ovation Pro* means that you shouldn't despair as the Acorn platform for the moment is unparalleled for most DTP.

Beebug
Tel: (01727) 840303



Pic of the month



NICHOLAS van der Walle of the self-run Astute Graphics is this month's winner with his impressive VWClipper piece.

Apart from being a wonderfully detailed reproduction of a real life image, and not just an inanimate object, there was also a very nice background text accompanying the picture.

It was not only the best picture of the month, but also the most entertaining to read and irrespective of the fact that I have recently bought a VW and work for an underground agency run by Volkswagen drivers whose primary objective is to publicise the Volkswagen label throughout the world, I have awarded Mr van der Walle the enormous first (and only) prize of £20 plus a free slide recording from the Digital Darkroom.

Astute Graphics can be contacted on (01203) 601051 or on E-mail: nwalle@coventry.ac.uk. but we cannot publish the top-secret contact address for the Worldwide Volkswagen Promotion Network.

Competition Reminder

Just a gentle reminder that the Spacetech competition, open only to users of *Photodesk* is still on. The top prize for the competition will be the fabulous Fotofun dye-sub printer which bangs out beautiful continuous-tone, photo sized images without the irritation of having to spend £5000 on an A4 dye-sub machine. With a copy of *Photodesk Pro* and the ingenious Spacetech printer driver that takes the dye-sub printer to unseen heights, this is a competition definitely worth entering. I'd buy a copy of *Photodesk* just to enter!

It all makes the equally prestigious, but definitely less profitable, Pic of the Month seem rather pathetic. Never mind, keep them coming.

Spacetech
Tel: (01305) 822753

Image FS 2

You would be right in thinking that *Image FS* could not get much better, at least as far as file importation goes. However, Alternative Design and Publishing (previously known as Alternative Publishing) have now begun adding the functionality of vector graphics formats. AD&P have started with the all important Windows MetaFile or WMF format. Even in the present alpha test stage, the files drop straight into any Draw compliant package operating with the same stealth and speed as we have come to expect from the program

Alternative Design & Publishing
Tel: (0141) 248 2322



Contacting me

You can contact the graphics and DTP page by writing to me, Jack Kreindler at Acorn User, Media House , Adlington Park, Macclesfield SK10 4NP, or by email to jack@argonet.co.uk.

Showroom open Mon-Sat 10-18.00 hrs (All prices exclude VAT) Carriage included except where indicated

CD-ROM

The following CD-ROM's are Multi-Session, PhotoCD, CD-DA, White Book compatible & include a cable & driver for CDFS 2.20

Internal Drives

4x Speed ATAPI (IDE) (Tray)	£120
Above requires RiscPC/A7000 with RiscOS3.6 or later.	
4x Speed SCSI (Tray) XM-5301	£200
4.4x Speed SCSI (Tray) DR-U124X	£240
PCW Verdict - 'It's extremely quick, and a bargain.'	
6.8x Speed SCSI (Tray) 135ms	£Call

External CD-ROM Drives

2x Speed SCSI (Tray) 275ms	£180
4x Speed SCSI (Tray) 190ms	£240
4.4x Speed SCSI (Tray) 150ms	£280

SCSI cards

Morley cached SCSI card	£160
Cumana SCSI II card	£165
PowerTec SCSI II card	£170

Above are suitable for A300, A400, A3000 (Ext+£25), A540, A5000 and RiscPC. HCCS card not suitable for RiscPC.

Hard Discs

IDE Bare Drives		SCSI Bare Drives	
635Mb 12ms	£150	1Gb 12ms	£250
850Mb 12ms	£Call	2Gb 12ms	£Call
1Gb	£Call	4Gb 12ms	£Call

Above are 3½" bare drives only. Please add the relavent accessories from below. Drives are Connor or Quantum. ForA3000/A3010 hard discs see Hard Card section below.

Syquest Removable SCSI Drives

Internal Drives		External Drives	
EZ135Mb Syquest	£Call	EZ135Mb Syquest	£199
(Above includes cartr.)		(Above includes cartr.)	
105Mb Syquest	£150	105Mb Syquest	£210
270Mb Syquest	£259	270Mb Syquest	£329
Syquest Cartridges			
EZ135Mb Cartridge	£20	105Mb Cartridge	£43
		270Mb Cartridge	£49

Hard Disc Interfaces/Accessories

50-50C SCSI Cable	£10	25-50 SCSI Cable	£10
SCSI II-50C Cable	£25	SCSI Terminator	£10
5¼-3½ open adapt	£10	5¼-3½ HD adaptor	£12
IDE Accessories		**SCSI Interfaces**	
IDE interface	£79	Morley Cached	£160
2nd Hard Drive Kit	£15	Cumana SCSI II	£169
External case/PSU	£79	PowerTec SCSI II	£170

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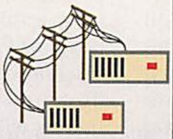
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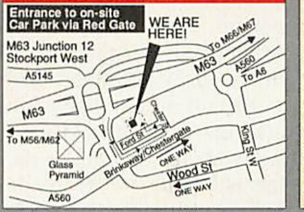
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Acorn Centres of Technology

Public Domain

Harmony and QTMplay

WHILE *Acorn User's* music player Q The Music is continually developed by Quantum coder Phoenix, new front ends for the player code continue to appear in the public domain. Two of the latest releases in this vein include *QTMplay* by Chris Rutter, and the *Harmony* front end, by Mark Seaborn.

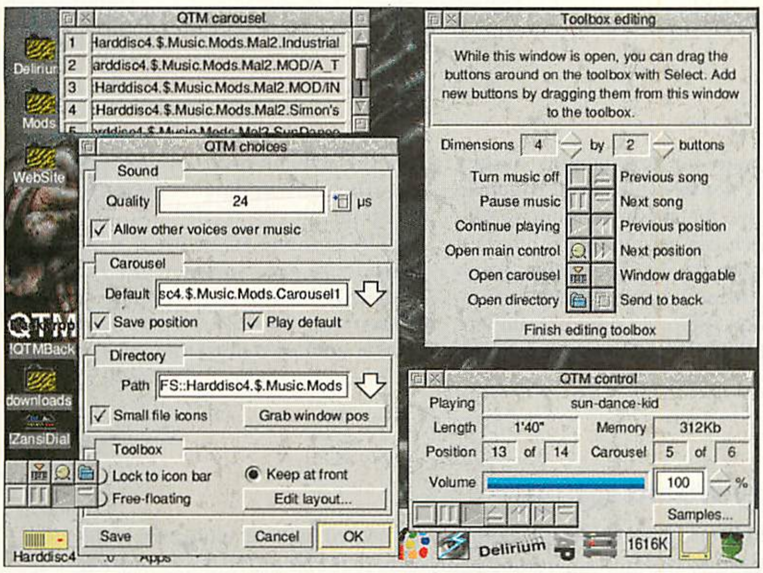
Harmony offers a comprehensive front end to play music in the Desktop. Emphasis is on providing an easy-to-use program that gets the job done without cluttering your screen with too many confusing and little-used features. *Harmony* fulfils this aim well, with a single, large control window which contains everything you need to play *Symphony* and *Coco* modules and automatically selects the best player for the music you load; the only problem that may arise is if your Trackers are incorrectly filetyped. While *QTM* doesn't support formats other than ProTracker, *Harmony* is the obvious choice for users with collections of *Symphony* and *Coco* files.

Mark continues to expand *Harmony*, and intends to include an array of extra features including some to take advantage of *QTM's* extra functionality while playing ProTracker mods.

Chris Rutter's front end *QTMplay* impressed original *QTM* author Phoenix so much that it is likely to become the great example of some really nice modular design. This guy should be writing Risc OS 4.

The directory icon from the tool box opens up a user configurable filer window. Simply drag your main directory of mods on to the configure window, and your mods become instantly accessible from the tool box – very simple and very effective. A conventional control window with all the usual controls is accessed via another tool box icon, and a third main tool box option opens the carousel window.

The carousel is simple to use and has all the features you need without being overly complicated. Just drag the mods you like into the window and select sequential or shuffle play to hear them all. Play lists can be saved out and loaded individually, and a default play list is yet another of *QTMplay's* simple but ingenious extended features. Drag your favourite play list on to the configure window, select 'play default', and that play list will automatically load up and start playing whenever you run *QTMplay*.



your Tracker files. Skip-search, pause and stop, along with a volume slider are the only controls, but these are combined with a rather fetching track time counter.

The control window also contains the carousel controls. A sliding pane has space for your user-defined track list, to which you can drag and drop Trackers from disc. Normal, shuffle and repeat buttons operate the carousel play style.

The main advantage of the *Harmony* front end is its inclusion of support for the other common music formats. *Harmony* incorporates the official front end for the player. Chris's program takes a new and completely original direction in producing a functional and easy-to-use front end, and I'm very impressed with the results.

The program is based around a small toolbar which contains the usual play, pause and skip buttons, along with icons which open the in-depth control windows. The beauty of this system is that it's completely editable. The size and layout of the bar can be altered to your needs, and far from being hard to use, it's actually fun to experiment with. It's a

The program even saves its position through the list, so if you turn off your computer on track 3, when you come back the next day, *QTMplay* will start itself off from this position.

Harmony is ideal for general use and essential for hearing formats other than Protracker, but for a more advanced, while still easy to use front end, *QTMplay* is my recommendation. Watch out for news on future developments and a possible *QTM*/*QTMplay* collaboration.

Harmony and *QTMplay* can be obtained from the Five Star Marketing PD library, on disc STU6, and from Digital Databank and Arcade bulletin boards.

MicroGear Software

After many years in the Amiga and PC public domain scene, MicroGear Software is launching an Acorn PD library. All discs cost just £1 each. Readers of *Acorn User* can obtain a free copy of the catalogue disc by sending a suitable SAE to: MicroGear Software, 23 The Sycamores, Horbury, Wakefield, WF4 5QW. It's interesting to see a company moving from the Amiga and PC to include the Acorn format. I'll keep you up to date on how the library is going.

Crime on the increase

I can report the imminent release of the second adventure game from the Unbroken Circle. Provisionally entitled, in a rather unoriginal way, as *Armed Robbery with Violence 2*, it will include even more crime, bad humour, graphics and sound. While Mr Pentangle is involved in the project I'm sure it will have a strong dark and foreboding, not to mention, black, atmosphere. A range of small PD games should also be included. Watch this space.

Dialer

Martin Greenhalgh has produced a brand new dialer application for use with *Zansi*, or indeed any other terminal software. It's an excellent little tool that replaces Chris Jackson's *ZansiDial*. *Dialer* has just about everything you need from an application of this kind, including Mercury dial prefixes, and a macro facility for when you reach a BBS. Recommended if you still use *Zansi*, but check out the review of *Connector* before you resign yourself to using the dated *Zansi* for BBS use.

Library sell off

Matthew Prowse is selling on his PD library to coders Afterdarc software, who plan to continue the development of the library. Afterdarc can be contacted on the Digital Databank BBS.

Public Domain

Connector

HAVING been a bulletin board addict for over a year now, I've been quite involved with the BBS scene. As a staunch PD supporter I've always relied upon PD terminal programs to get me online. Unfortunately, the best option available was the dated *Zansi*, which is no longer being developed and wasn't really ideal for everyday use as it contained several major omissions and inaccurate ANSI support.

After struggling by for all this time, the public domain is about to provide several new terminal programs. As well as forthcoming contributions from groups like Dizzy Wizard, German group AMZ-SOFT has already released a beta version of its *Connector* program. Although it still contains several bugs, and supports only zmodem file transfer, it seems to be developing quite nicely. As always, the PD page will keep you up to date with developments in this area.



Acorn User PD scheme

AFTER the initial launch of the *Acorn User* PD scheme by Mark Moxon in 1994, things have been a little quiet. So here's a reminder about what's available to PD coders out there.

The PD scheme works by publishing authors' software on the cover disc of the magazine. *Acorn User* retains copyright over the software for three months, during which it may not be copied or distributed. After that time, the software becomes ordinary PD which can be sold by PD libraries and uploaded to the net. This allows *Acorn User* to pay the author for the privilege of including it on the cover disc. It is important to note that any software put forward for the scheme must be unreleased, or a significantly updated version of an old program.

The scheme is an ideal way for PD authors to earn some money from their software, while distributing it in the widest way possible. Please contact me if you're interested in getting involved.

Recommended PD Libraries

The Datafile
71 Anson Road
Locking
Weston-Super-Mare
BS24 7DQ

APDL
39 Knighton Park Road
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Dizzy Wizard software

New software under development by Dizzy Wizard includes a range of handy desktop utilities. The most interesting items include the *Sheriff CMOS* protection program which will provide a password lock for use on school networks, and an uncrunch module for use with BASS's Crunch util. Watch this space for further developments.

More nostalgia

The current fad of emulating other computers on our trusty Acorn machines has been taken to the extreme with the release of an Amstrad CPC emulator. Emulation is quite good, apart from the lack of sound support and the software comes bundled with a pack of games. Another emulator is also in development, but is only available as beta test at the time of writing. CPC_Emu is available from the Digital Databank BBS.

Contacting me

You can contact the PD page by writing to me, Paul Wheatley, at *Acorn User*, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP. Or preferably, by e-mail to quantum@digibank.demon.co.uk.

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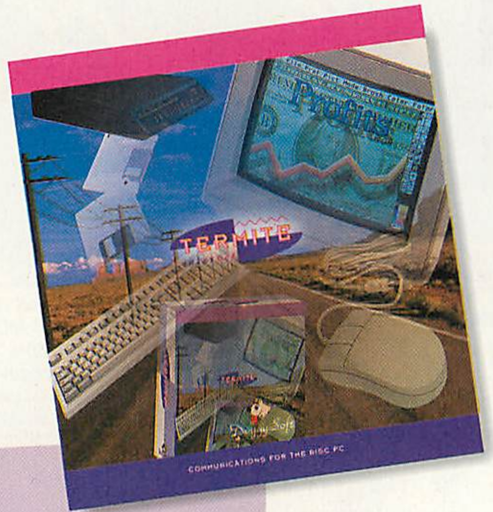
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- Miscellaneous useful functions such as *ping, time, traceroute* and *finger*.
- There are also lots of servers included — even a web server, so that while you are connected others can read your own WWW pages.

REQUIREMENTS:

- 2MB RAM minimum (4MB Recommended).
- Risc OS 3 (version 3.10) or later.
- A hard disc drive.
- A Hayes compatible modem (14400bps or greater recommended)

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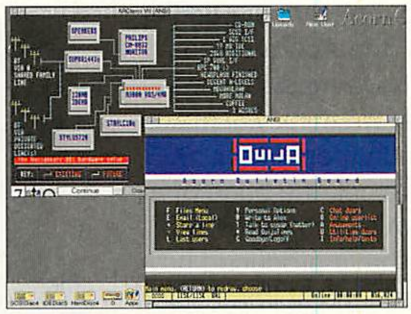


OuijaBoard is the BBS that likes to say Yes!

ALEX HOWARTH lives near a small village called Bow, miles from anywhere else in Devon, and spends much of his time not doing his Physics homework. Instead, he's busy improving and developing OuijaBoard BBS – test site for the *NewsFlash BBS* shareware software package written by Chris Davis.

The OuijaBoard name does not imply dark forces, but simply breaks the mould of ARC and ARM inspired BBS names. Alex is working towards a BSc in Product Design, and his flair for unusual and original graphics is very apparent in the screen designs on the BBS. Ouija runs on a 4Mb A3000, with a 120Mb hard disc and Supra V32bis modem, and shares the family telephone line between 10pm and 8am.

Alex uses the BBS to test and distribute the frequently-appearing software updates from Chris Davis. *Newsflash BBS* software is designed to provide a flexible, low-level approach to creating a BBS by maximising the use of operator-scripted functions with a minimum of hard-coded commands. From experience with the current software, Chris is designing a new modular version with even more flexibility, and this will be a package to watch out for in the next few months.



Graphics on show at OuijaBoard BBS

The BBS filebase contains an interesting selection of over 800 files ranging from Alex's BBS Door collection through Acorn Comms and Internet files to UFO and paranormal interest subjects. The OuijaBoard messagebase is yet slim, but a large collection of online games and ANSI graphics will keep callers occupied.

OuijaBoard is FidoNet node 2:255/116.0, and is also part of the RiscNet system. *Newsflash BBS* software attracts a shareware registration fee of only £10, and is available from many Acorn BBSs, though the latest updates and support are always available from OuijaBoard. Alex helps to fund his BBS by demonstrating the Internet and authoring WWW pages for a local shop. E-mail Alex as alex@keystrok.zynet.co.uk.

Are you there, Alex Howarth? Finish your homework and you'll get that BSc! We look forward to seeing his name emblazoned in pixels on screens all over the country. You can see it today by calling:

OuijaBoard BBS 10pm-8am
(01363) 82303

In the fast lane

IT has taken barely a month or two for Acorn comms users to realise that V34 modems are not only affordable but increasingly essential in this high-speed world. When we first installed a V34 US Robotics Courier modem capable of connecting at 28,800bps on one of the Arcade BBS lines, we'd receive two or three V34 calls a day. Today, 20% of our 330-odd weekend calls are at V34 speeds, and all five lines now have this capability.

To make best use of V34 and the recent US Robotics proprietary modem upgrade to 33,600bps, you need a serial connection between your computer and your modem that can deliver data at several times this speed. Data-compression such as negotiated by the V42bis protocol increases the speed at which data can pass into or out of your modem by up to four times, and up to eight times (claimed by Hayes) on suitable data.

A high speed modem is also desirable when accessing the World Wide Web, even though most of the delays encountered are in fetching the data, rather than in the actual transfer of the packets. Lightning fast demonstrations of the WWW (or Three Dub as they call it in the US!) often mislead where access is direct to high-speed networks rather than by modem, which can be disappointing in comparison.

The Risc PC's in-built serial port capable of 115,200 bps is quite sufficient, but one answer for owners of older A300, A400 and A3000 machines limited to 19,200 bps (if you're lucky), is the Intelligent Interfaces Dual High Speed Serial Interface Expansion Card which has recently been updated with revised specifications. Speeds up to 230,400bps are now supported and block drivers are supplied for use with popular serial software. The new card costs £149 plus £5 carriage plus VAT.

A version is available for A3000 owners, and the really good news is that owners of the older II11 card can return it to II who will upgrade it to the latest II66 specification for just £39 + carriage and VAT. I know of several old II cards lying on shelves that can now spring into new life!

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Four11 Directory Services
http://www.four11.com/

Only Connector

Suddenly everyone's talking about *!Connector*, the FreeWare comms terminal software written by Andreas Zieringer of Bensheim, Germany. The latest version 0.66 (as we go to press) of this excellent package is appearing on a BBS near you. Andreas welcomes reports and comments by e-mail to topdog@rbg.informatik.th-darmstadt.de. You can also get the latest version of the program from his WWW Home page by clicking on its Download button.

AMZ-SOFT

http://www.student.informatik.th-darmstadt.de/~topdog/AMZ-SOFT.html

Comms moves

Just after the January issue went to press with details of the FreeNet Web and ftp servers, the software archive at the Southampton University ftp site was moved to another machine. You can ftp all those applications now using: *ftp://ftp.dsse.ecs.soton.ac.uk/pub/Acorn/freenet*

Contacting me

Send me any interesting Acorn-interest URLs you find, and I'll publish a monthly selection. You can contact me by writing to David Dade, Acorn User, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP, or by e-mail to: DaviD@arcade.demon.co.uk, or mail #2 on Arcade BBS 0181-654 2212.

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PC column

The death of DOS

YOU probably hoped your 486 card was going to give access to loads of glorious high-speed action games not available for RISC OS (as well as the serious software) so, by now, you may be feeling a bit disappointed.

The great problem with DOS is that it grew out of control. Not only does it have to cope with backward compatibility but it never formulated single standards for such things as enhanced graphics, sound and so on. So in the world of DOS your graphics and sound depend, not on a well defined operating system as it does in the Acorn world, but on the hardware goodies you've bolted on.

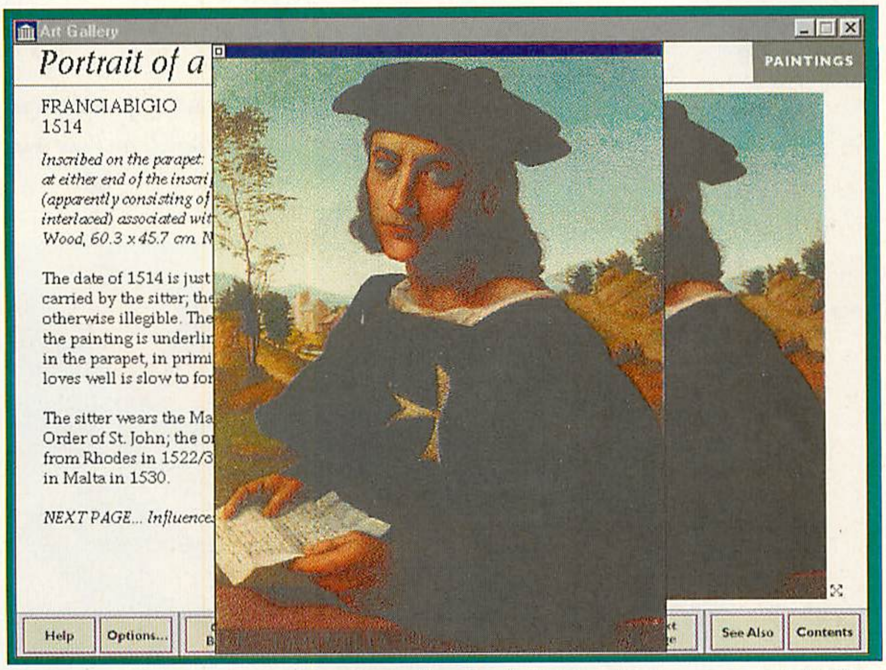
The result is a huge market in extras that are incompatible with each other and often require different drivers. In a recent review of sound cards, a PC mag had a dozen to choose from and still didn't cover half of those available in my local computer superstore. To cope with this plethora of hardware variants, software writers have to make their programs interrogate the hardware hopefully to work out what's installed and select the driver modules to suit.

And there's another problem: The multitude of different hardware add-ons allied to the free-for-all marketplace means that software writers will use all sorts of nifty tricks to avoid the conventional ways of addressing hardware in order to gain a small speed advantage. Such things cause enough problems for people with supposedly 100% PC compatibles. I don't envy anyone the task of trying to find ways to trap such tricks and emulate *them* with any great success.

So is it all a disaster? Not entirely because development of DOS has officially ceased. Microsoft developed Windows as an operating environment that could, in time, be bolted on top of a new and probably very different operating system. Their eventual aim was to develop a modern chip set and software to take the place of DOS.

So, for example, the screen output of Windows isn't bit-mapped, it outputs a string of commands telling what shape should be drawn with position, colour and any other relevant information. This output could be interpreted by a screen driver operating any screen at any resolution. All it needs is the ability to understand a well-defined set of codes from Windows.

Aleph One is in a sense one step ahead of Microsoft. They have taken advantage of the way Windows is structured and written the drivers to interface the Windows output to RISC OS. So provided that the Windows software is properly written to use the correct Windows 95 procedures, anything written for Windows 95 or, indeed, 3.1 should run on your 486 card.



Microsoft's excellent (London) National Gallery — rumour is Bill Gates has it showing the great masters on huge screens in his home

So do you give up on those programs you'd set your heart on? The answer would appear to be no. Bide your time and the mountain (or at least the best of it) will come to you. Microsoft is very keen indeed to establish its Windows software and is encouraging other software houses to use it as designed.

As a part of this process the company now licenses other manufacturers to carry stickers on their products with a Windows 95 logo and a legend stating they are written for Windows 95. And this process has to work because Microsoft need it in order to dump the tangled spider's web that DOS has become. The software houses need it because they have to run with what Microsoft wants or be left behind.

Microsoft assure me that anything with their official logo avoids direct hardware addressing and conforms to their requirements – and that means it has a very good chance of working on your RiscPC/486. They've also promised to send me some software. I'll let you know how it performs.

Christmas came and went

So far as the Buckingham household was concerned, this Christmas was definitely the year of the computer. Having only recently upgraded from an issue one A310 – albeit somewhat upgraded – to the exalted pastures of a Risc PC 700, with 486 card of course, it was a great opportunity to spoil ourselves with a few choice bits of software.

Characteristically the Acorn native software loaded and ran without hassle. Not so the PC stuff. Having only recently sorted out graphics and sound I was alarmed, annoyed and perplexed as to why the sound on Microsoft's *National Gallery* failed to work. It has a commentary which, amazingly, is in English not American. Except mine didn't. Then I realised *Encarta* had gone quiet too and that had certainly been working.

A little bit of swearing and some detective work revealed the answer – installing the new software had deleted part of the Windows 95/SYSTEM.INI file that I had so carefully added. It was just one line in the [386 Enh] section:

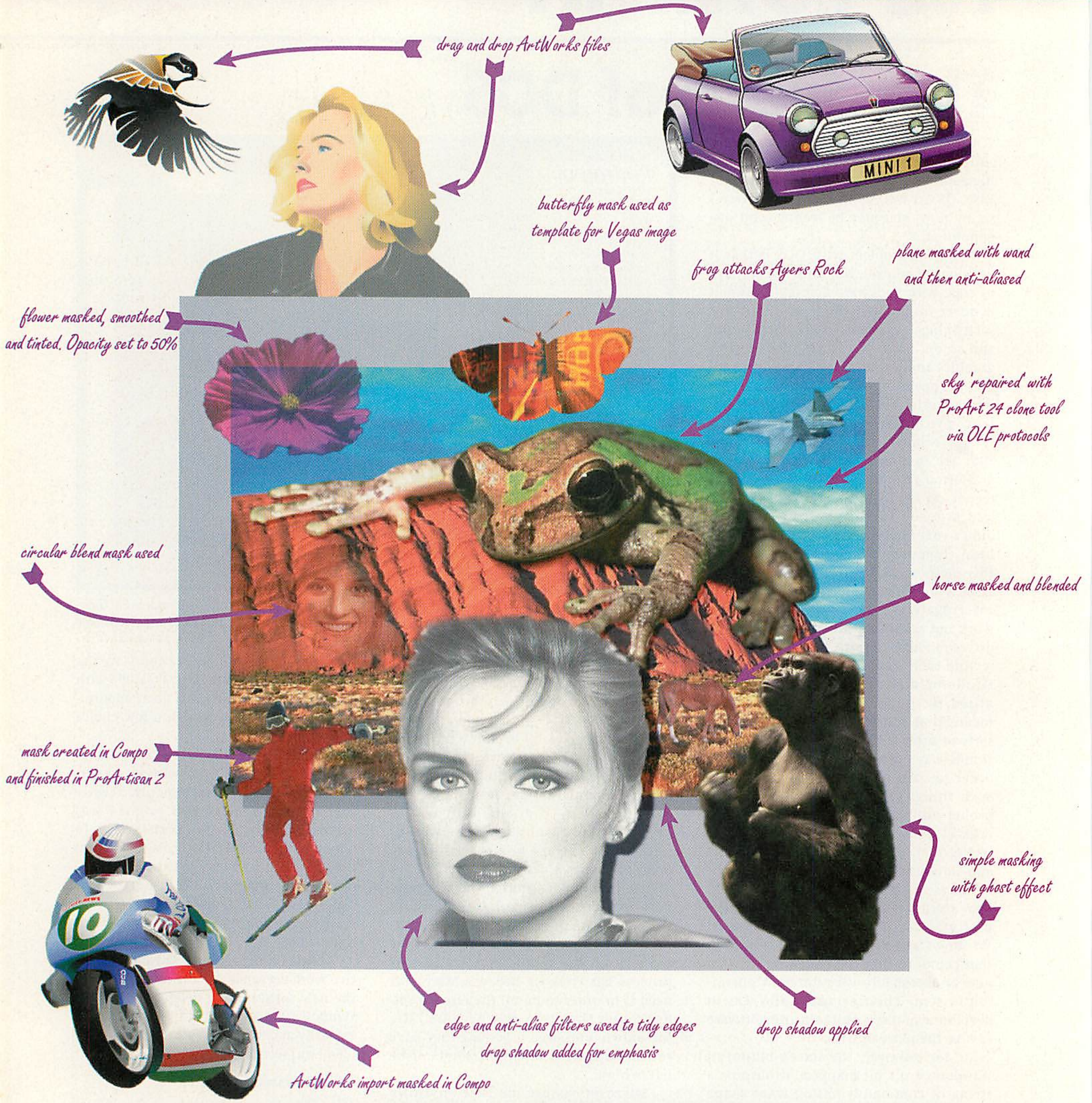
```
device=vsbpd.386
```

But without it the computer doesn't call the sound driver.

So I put it back – and it worked. Then I installed another program, *Classic Library* from Andromeda. You guessed it, I had glorious silence. Once again, same line, same file: disappeared. I can only assume that these programs, and probably many others too, assume this alien line from the world of RISC OS is systematically exterminated by Windows software.

Now if your sound does a disappearing trick — you know where to look!

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RISC PC EXCLUSIVE

Networks

Installing downloadable modules

FROM time to time, new software appears which will either benefit all users of the network or offer some protection to the network. If the software is to be installed on all stations, it makes sense to automatically download it on power-up. I'm referring to relocatable modules such as *VProtect* (and a new one from Cannon Computing which I'll discuss later) but this could also apply to small applications such as the *Tidyclock* which appeared on the first *Acorn User* CD-ROM.

The method for installing new modules for automatic downloading to network stations will depend to a large extent on the way in which the network has been set up. Whatever model you use, the software should, wherever possible, be downloaded via the application accelerator (*NetGain*, *AAServer*, *AppFS* etc) which will be much faster than the normal AUN and, as the module will reside in a read-only area, it won't be able to be deleted.

It is likely that each station will download a number of modules on power-up, so place the new module in the same area as the others. Somewhere there will be a file which carries the downloading instructions, normally called *ArmBoot*, or a Desktop file that is loaded by *ArmBoot*. In any event, there will probably be several instructions for loading additional modules so it should be fairly easy to find. Once it has been located, add a line similar to:

```
RMEnsure XXX 1.00 RMload YYY.ZZZ
```

where XXX is the module name followed by the version number, YYY is its location and ZZZ is the module's filename.

In many cases, stations will load an updated or enhanced version of *System* rather than relying on the one resident in the computers. This should also be located in the application server. In this case, place the module inside the *Modules* folder within *System* and in a suitable executable file, add an instruction similar to:

```
RMEnsure XXX 1.00 RMload System:Modules.ZZZ
```

where XXX is the module name followed by the module number, and ZZZ is the module's filename.

Once the updated file has been saved, don't forget to set the access to Public so that stations can read it.

Preventing re-configuring

ONE of the great advantages of using Acorn computers is their ease of configuring. The configuration details are held in battery-backed RAM so that even if the computer is switched off, the settings will remain. As those of us who manage a school network will confirm, this feature is a mixed blessing. Students very soon learn how to alter the computer causing it to behave in a way that makes the casual observer think it has broken down. Changing the WIMP mode to 22, for example, presents the user with icons that are so large you can only get about four on the screen, whilst Mode 0 puts it into a black and white only display.

Worse than this, changing the monitor type to a variety that isn't present makes the monitor act as though it's just about to paste itself onto the ceiling and changing the local fileserver to one which doesn't exist ensures nobody will be able to access any of the software.

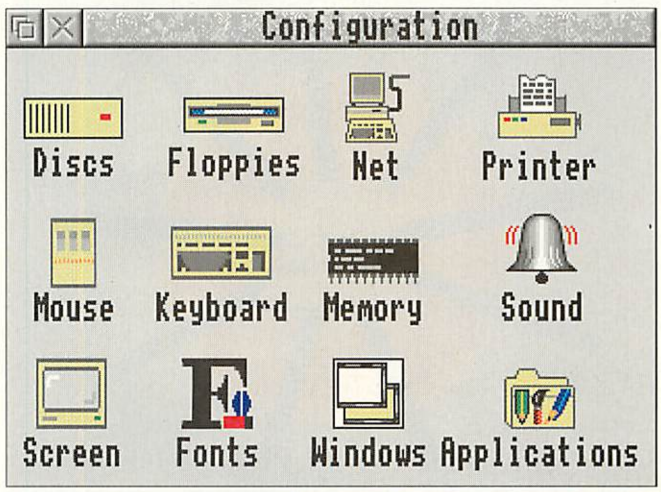
One simple defence is to ***Unplug** or remove *Configure*, but that only solves part of the problem. Pressing F12 gets to the command line where all manner of vandalism can occur. I spoke to Cannon Computing about this and they have come up with a relocatable module which effectively disables F12 and Ctrl-F12, and even prevents a task window being generated from the Task Manager. Of course, there are ways to overcome it, but again, I'm not going to outline them here. This does mean that it's a little bit trickier to do some things now that the command line is no longer available. For example:

```
f12 screensave <filename>
```

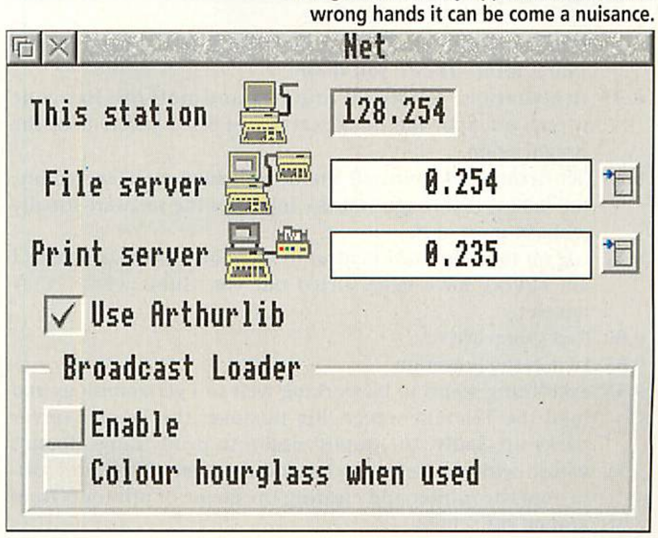
was a quick way of grabbing a screenshot, but I think I'll live without that.

Cannon will make the module available to anyone who sends in a cheque for £15. (For such a small amount, it's really not worth sending in an official order.)

Cannon Computing
Tel: (01279) 730800



Configure is a handy application but in the wrong hands it can be come a nuisance.



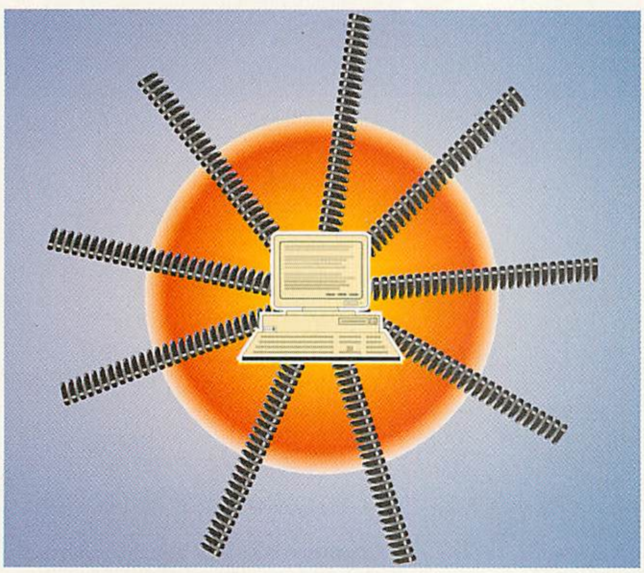
Diary of a school network manager

8.00 Arrive at school. Park the car and walk down to the IT room. Breathe the fresh air deeply. Unlock the outside door and peep inside...everything is still there, that's *good*. Walk through to the office and unlock the door. Will the tape streamer have done its bit for the security and well being of my pupils' work? Ha! Might as well ask if the processor pixies have been in the night and upgraded all my machines to Risc PC 700s – it's failed again; better luck next time.

8.15 Download all the e-mail for the school's Bulletin Board system. Another peaceful part of the day, until a pupil does his usual trick and doesn't quit properly so the whole machine is hung until I spot the culprit.

8.25 Re-boot the network because the tape streamer software doesn't like the application server software and all the client stations go off in a huff and refuse to load any applications at all.

8.26 The concept of loading CD-ROM drive two seems to be causing the CD server some difficulty so I have to re-boot again.



8.30 Pre-match briefing. I'll leave the system in the hands of my Year 7 form – they'll sort it out.

8.45 Registration. Nearly 20 minutes and nothing has gone wrong yet. Spot the hung server (see 8.15) and re-boot the system again.

8.50 Get *Archiboard* to install the downloaded mail. Incredibly, the mail gets through intact – injuns in the software usually ambush most of it.

8.55 Log on to *Archiboard Central* to see if any of the problems I am having have been sorted out yet. Guess what – they haven't.

9.00 First group arrives.

9.05 Switch the power on

9.55 Everything seems to be working well so I get ambitious and load the Teletext server. Big mistake; the Printer server packs up. Sadly, the pupils' desire to print things doesn't vanish with the server, so I spend the next 20 minutes sorting out the printer and clearing the queue of printouts from around the school.

10.15 Break; coffee and a lie down. I wish. The staff room is full of people saying helpful thing like 'Why can't you fix it now?', 'I need that machine and I cannot possibly rearrange anything to take its place!' or 'Why are you asking me what's wrong – *you're* the expert!'

10.30 Do it all over again with a different group.

10.50 The group got started with suspiciously few problems, so I have time to look at the post. The *Blue Peter* paper appeal should do well out of this year...

11.10 Demonstrate the scanner. It works. I'm fighting down a creeping feeling that this all really is going too well. If nothing crashes soon I'm in real trouble, because the network's obviously saving itself up for The Big One.

11.11 I discover the scanner is not properly plugged in and won't go any higher than 200 dpi. What a relief.

11.20 Part of the network has packed up. Oh goody. Terrified staff and pupils flee before a madman dashing round the school brandishing a soldering iron and toolbox (me). Computers, desks, benches all flung aside in the search for the problem. Find the offending connector and repair it.

11.30 A delegation from Humanities arrive wondering why they cannot use the machines in the resources area. I know this one; I tell them to turn on the repeater in Modern Languages (again), and everything works.

12.03 Power cut. Silence falls, punctuated only by a few souls pathetically pressing F3 and willing the computer to respond. We wait in a pitch black room until the power returns. I reboot the system and get the kids to log on, ignoring the sense of *déjà vu*.

12.10 Order (such as it was) is restored. Some files were corrupted or left open when the power failed so I spend the next few minutes loading the *Ovation* files into *Edit* in an attempt to retrieve the text.

12.55 Dinner time. The room fills with pupils who want to use the computers because they couldn't get near them during a lesson. The Bulletin Board works overtime but only has to be re-booted twice. Luckily I have a keen Year 11 pupil who does this; she's got the makings of a network administrator if no one warns her. I sit back and rest for a while until the printer server packs up. 'What is an Address Exemption?' asks a wide-eyed Year 7 pupil.

1.05 I fix the printer server, muttering darkly but audibly about the many advantages of pen and paper. This earns me bemused looks from the surrounding pupils who view my job working with computers all day with a sort of awed reverence. I'd like to tell them exactly what I think of this, but it involves words that they're not meant to know.

2.05 I do the same thing again with a different group of children. Oh joy.

6.30 Arrive home. Break out the chainsaws and practice my juggling. (Well, I need something to do in those spare minutes when I'm not teaching).

Allan Kealey

Contacting me

You can contact the Network page by writing to me, Geoff Preston at Acorn User, IDG Media Ltd, Media House, Adlington Park, Macclesfield SK10 4NP or by e-mail to: gpreston@arcade.demon.co.uk

Alone in the Dark demo

Krisalis

ALONE IN THE DARK is a classic 3D adventure in a terrifying Lovecraftian world of lurking horrors. We'd recommend that you copy !AloneDemo on to a hard disc if you have one. The demo will work from a floppy disc, but it rather slowly. The program needs an Acorn Archimedes or Risc PC with Risc OS 3.1 or later, with least 2Mb of RAM fitted. We'd also recommend having a sofa handy — to hide behind.

Once the game has loaded, select *New Game* from the main menu. You will then be invited to select a character to play with. In the demo version, only Emily is available. If you select Carnby, the game will still use Emily.

In the demo, the idea is to find a letter, an Indian Rug, a Book, a rifle and to then leave the room, without getting killed.

When you succeed in leaving the room in one piece, the game will send you directly to the main menu, whether or not you have achieved the objectives.

The game is controlled using keys only:

Cursor keys	Move the character around
Return	Go to options screen (see below)
Space	Action key (see below)
Escape	Go to game menu (see below)

The Options Screen

This is used to interact with any objects that you have picked up and to specify your character's actions. The top half of the screen shows the objects you have found and also an entry marked Actions. Select an object using the cursor keys, then press Space or Return to confirm your choice.

The window in the bottom right of the screen will then show actions associated with that object. Select the one you want using the up and down cursor keys then press Return or Space to confirm your choice.

Once back in the game, use the space bar to perform the action you selected. There are modifiers available for some actions, such as when the Rifle is *used* while holding space:

up/down arrow	fire gun
left arrow	direct gun to left
right arrow	direct gun to right

There are other modifiers which have been left for you to discover, but as a general hint, use the cursor keys while holding down the space bar if the action is not what you think it should be, or you want to make some variation in what it is doing.

The Game Menu

From the game menu you can save and load games, change the detail level and quit the game. Use the cursor keys to select an option and then press Return or Space to confirm the choice.

This demo is a fraction of the whole game — only the first room in fact. The full game has many more puzzles, rooms and monsters.

Additional features also include :

• Hundreds more rooms to explore in the macabre Derceto mansion where terrifying monsters lurk.

• Two characters to play the game with — Emily Hartwood as in the demo and Edward Carnby, a private investigator.

• Over 1Mb of spine-chilling sound effects, which there was not room on the demo disc to include.

The full game works on all Acorn Archimedes and Risc PC machines fitted with RISC OS 3.1 or above, a hard disc with 8Mb free space, and 2Mb of RAM. It's available from Krisalis Software on (01709) 372290. Or by mail from Krisalis Software, Teque House, Masons Yard, Downs Road, Moorgate, Rotherham, S60 2HD.

WARNING: This demo is scary and is probably not suitable for young children.



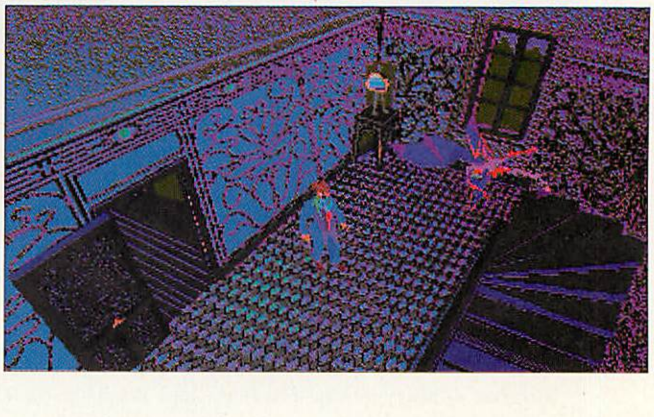


Can't read the disc?

If you are using a machine that doesn't allow you to read double density discs you're probably a bit annoyed at this point. Despair not, we are providing a replacement discs service.

All you have to do is return the cover disc to us at the usual magazine address — in a small padded envelope — and we will send you two single density discs in exchange which can be combined to run this excellent demo.

You will need to have RISC OS 3.1 or better, with at least 2Mb or RAM and a hard disc — otherwise you still won't be able to run the demo, unfortunately.



FSCK

Sergio Monesi

FSCK is a disc utility that fixes the map of an E-Format disc (hard or floppy) if it is corrupted for some obscure reason. fsck can also report some information about the way the files are allocated and eventually print a detailed description of the map and directories organisation.

Fsck can also be considered as a replacement of the *CheckMap command because it is faster, less prone to crash and can give useful information on the files allocation. What if fsck does is scan the directory tree and checks the map to see if every file registered in the map actually exists in a directory. If not, it creates that file in a directory so that you will be able to delete it in the normal way.

If the file was originally a directory, fsck tries to relink it, reconstructing the directory name and content. Even if you want to keep the relinked files or directories, you should copy them and delete the original one, because there is the risk that your map will be corrupted again, especially if you try to change them.

Apart from directories and their content, the re-linked files are usually longer than the original lost file because fsck always links whole sectors (and there is no way to know the original length), their filenames are random and filetypes are always &FFF (Text).

Using the -m option, fsck could tell you that an ID is regularly allocated for another file and you have to delete it (moving the file to another directory isn't enough, you have to copy it and delete the original) and run fsck again.

Without this option, fsck will change the ID in the map and rewrite it to disc. The -m option is in fact only useful if you prefer not to modify your map: anyway, remember that moving files on a corrupted disc can be quite dangerous and can eventually corrupt other parts of the disc.

Sometimes the disc may be so corrupted that you will need to run fsck more than once, the program itself will tell you if a rerun is needed.

The program is command line-based which means you run it from the * prompt reached either by pressing F12 or from a command line window, Ctrl-F12.

The basic command syntax is this:

```
fsck [-options] [-d lostdir] [-l logfile] [pathname]
```

Most used options:

- -s calculate statistics
- -f try to fix map if broken
- -l print the results in logfile

Less used options:

- -h print help information
- -d link broken part of map in directory lostdir
- -v print files location (-vv print also files position in zones)
- -D just display disc information recorded in the map header
- -q don't display disc information (quiet mode)
- -c produce output like *CheckMap
- -m ask the user to eventually move files instead of changing map
- -n don't try to recognise directories

The default directory where files are linked is *$.lost+found*. If *pathname* is not specified, the current disc is analysed.

If *pathname* is not a root directory (eg. ADFS::0.$.Library), fsck checks only that directory and so it cannot tell you if the map is good or broken. This could be useful if you want to know the statistics of a single directory instead of the whole disc.

If the -f option is used, the disc is scanned from the root directory, regardless of *pathname*. The -m and -n options used together cause fsck 1.20 or later to work like fsck 1.13 or earlier.

This program is shareware, a file describing the conditions is included with the programs.

WARNING: This suite of programs can be hazardous to your hard discs health if used carelessly. Be sure to read the instructions here and on the disc carefully before using any of the programs in the suite to fix damaged discs.

It's recommended you store fsck, unpacked, on a floppy disc separate from your main system.

Disc information

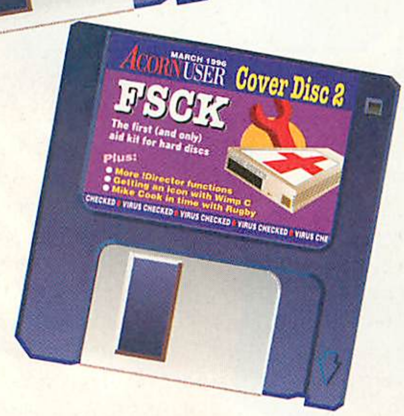
THE software on this disc has been compressed using *ArcFS 2* from VTi. Unlike on many previous discs, these are straightforward archives which are opened by running a copy of *ArcFS* and double-clicking on the archive to open it. There is a copy of *ArcFS* on the disc.

Most software will run straight from the archive, but some programs may need to be copied out of the archive before being run, uncompressing them in the process. Any program that saves a file to disc, for instance, will be unable to do so into the archives on the disc.

If your disc is faulty, then you should test whether it will verify by clicking with Menu on the floppy drive icon and choosing 'Verify' from the menu. You should then either return it to TIB, TIB House, 11 Edward Street, Bradford, Yorkshire BD4 7BH (if it does not verify or is damaged) or to the editorial office at *Acorn User* (if it verifies).

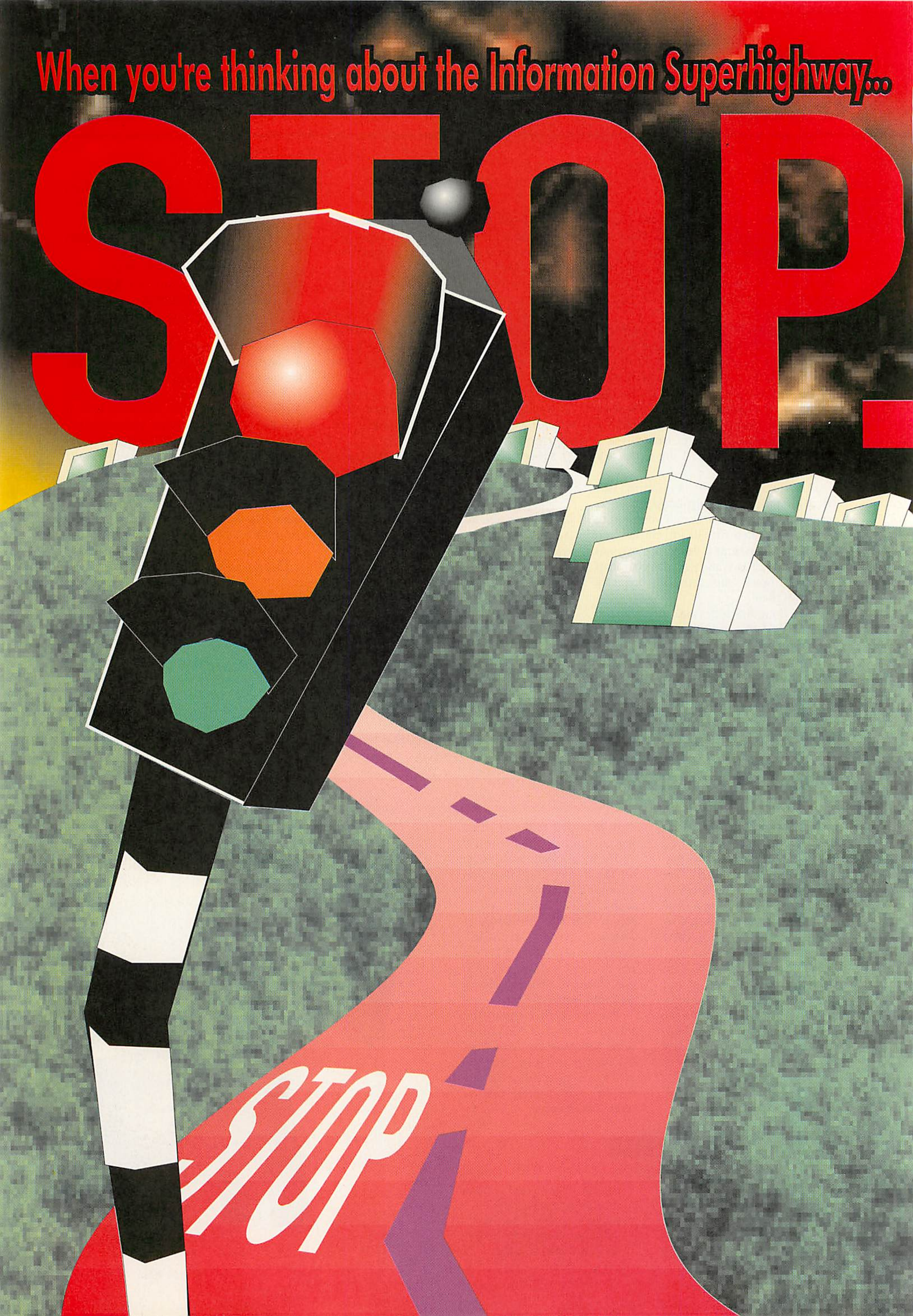
The *Acorn User* cover disc has been checked for viruses using *Killer* version 2.204 from Pineapple Software. See the article on virus killers in last month's issue of *Acorn User* for more information.





Regular items

- Run the Risc includes Mike Cook's programs to read the time from the Rugby transmitted clocks.
- *INFO contains a plethora of demos, utilities and applications to keep you busy.
- Wimp C is now developing a program which actually puts an icon on the iconbar.


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Bitmap package Roundup

Jack Kreindler explores the latest batch of graphics packages

Two years ago Pete Worrall, Paul Wheatley and myself reviewed all the graphics packages on the Acorn platform. That included everything from vector graphics through bitmap packages, rendering and raytracing applications. This year, as in the last graphics special, it was quite impossible to compare just a few of the most exciting features of the bitmap packages alone. This is of great credit to the software companies who have created some quite exemplary packages that have continued to evolve and improve at a rapid pace.

The birth of the Risc PC, its powerful graphics sub-system and ever improving standards of graphics application has now upped the 'bottom end' of painting packages firmly into 24-bit territory. Yet reflecting on a bit of history here, 24-bit painting began even before the release of the Risc PC. The first 24-bit package on the Acorn was called *FineArt* and although it was appallingly slow, it worked on the A5000 and generated Clear files which could be previewed with the appropriate hardware. This was about eighteen months ago, before the likes of *Photodesk*, *DA's Picture* or *Studio 24* had arrived on the scene.

There is great desire nowadays for a wide range of colours with which to achieve the photo-realism that many users of bitmap packages aim for. However, there are many who use older software on earlier Acorn machines very effectively for whom the recent breaking of the 24-bit barrier has meant no more development on much loved applications. Sadly time moves on and at this early stage of 1996 we have quite a large array of packages, nearly all 24-bit, that form the Acorn bitmap package portfolio.

Old and new

The line up consists of *Photodesk*, now currently in version 2 which is a much changed, professional version of the original retouching application; *Studio24* is another frontrunner. Development went into a cocoon phase last year, with not much going on outside but major internal changes happened and eventually at Acorn World, *Studio 24 Pro* arrived with a new interface, new tools, new target market, new everything.

The big release towards the end of last year was *Big Picture* from Longman Logotron. Longman had resigned itself to the fact that the all-singing, all-dancing and highly complex 24-bit programs had already captured the bulk of potential customers in the Acorn market and that the 24-bit version of *Revelation Image Pro* could not directly compete. So they created *The Big Picture* – a brilliantly low priced package bearing resemblance to *Revelation* but armed with very advanced features.

Clares took *ProArtisan* to great heights with *ProArtisan 24* but dedicated users have not enjoyed the same level of post-release development as *Photodesk* and *Studio24* users. *ProArt24* has not reached version 2, but another major release by Clares, *Composition*, entered the Acorn platform into a new category last year. This is a 'fringe' bitmap application allowing the user to benefit from the advantages of both vector and bitmap tools.

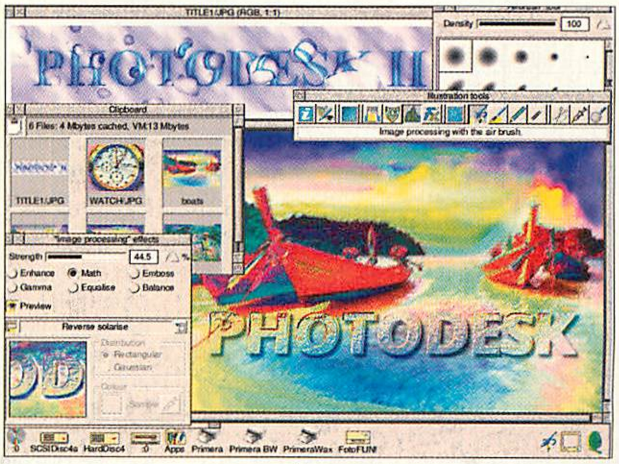
Lastly *DA's Picture* should at least be mentioned as there is still information finding its way to *Acorn User* that it would be making a reappearance with a revised price, a new interface and a couple of weird and wonderful tools. I reserve the right to be a doubting Thomas in this instance.

Photodesk

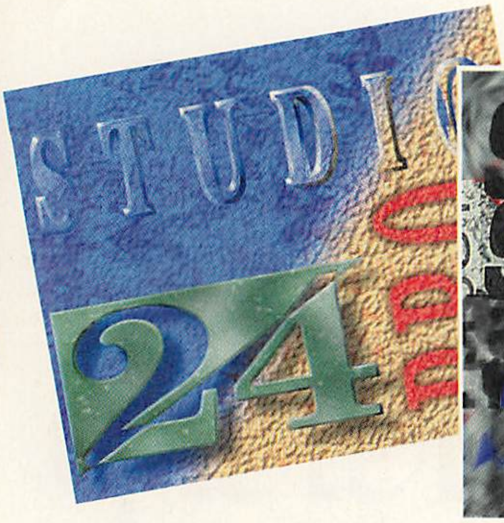
Photodesk, many readers' favourite package, has improved by leaps and bounds since the last round-up. The main criticisms from a general user's point of view were the slow loading and writing of foreign file formats, slow virtual memory which let the program down when dealing with big files, and a drag response time for brush stroking, leading to a lack of fluidity in painting.

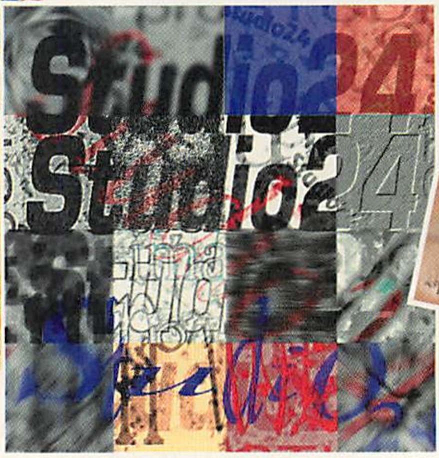
For artists the main issue of contention was the small number of *PhotoShop* plug-in-type tools and effects and for professionals the long loading times of big images, lack of some image export standards, especially for OPI and an absence of any true CMYK image support were the big problems.

Albeit a very small company and an even smaller programming team, I am highly impressed by the way that Spacetech have eventually implemented all the above suggestions and made many more improvements besides. In fact *Photodesk* is now available in two forms;



PhotoDesk has now reached version 2







Studio 24 has undergone major surgery

Photodesk (the original version) and *Photodesk 2* (the professional package). A late beta release of the latter is the version reviewed, not the final version.

Loading still reminds me a little of *Artworks*, taking just enough time to illicit one of those 'why-hasn't it loaded yet' sighs. But considering this, there is a tremendous amount of program to load. The interface is largely unchanged with a single attractively designed tool bar and optional infobar below it, spelling out prompts or the actions of currently selected tool combinations. The philosophy of the package remains unique in that it allows almost every effect to be applied through any of the painting tools.

For those who are more used to achieving effects by clicking once on the appropriate button, this system needs adapting to. Once mastered, however, *Photodesk* gives you far more control over the way you apply effects. For instance, you cannot just emboss an image, you must either magic wand the emboss effect, brush it on, draw the effect or airbrush it, to name but four.

A new toolbar icon opens the channels window which displays the status of all the channels plus a composite and a default alpha channel used for the mask. The window lets you choose the channel's visibility and write protection. There is also a menu in this window which enables mode change to CMYK. True CMYK calculated through a colour conversion table which can be copied in from such programs as *Photoshop*. You can work in this mode with any of the tools or effects though some colours are, of course, not within the range of the CMYK gamut. Such features have taken *Photodesk* to a very professional level. Other platforms charge hundreds of pounds for little plug-ins so the high-end user can enjoy such facilities.

Future versions, or even the actual release version of *Photodesk 2* should support other professional facilities like DCS export for OPI, effects previewing and perhaps some kind of pre-emptive background computation. If so, *Photodesk* will be a truly viable alternative to *Photoshop*, including the option to create wonderful plug-ins. On the creative side *Photodesk* already puts *Photoshop* to shame. With its new highly polished effects, vastly improved cutting, pasting and distortion facilities and smooth brushing and painting, it is just as powerful, if not more so. *Photodesk* is *Photoshop* for the Acorn; what more can I say?

Studio24

Studio24 is the creation of one man, Adrian Skilling, which makes this wonderful creative tool an even more impressive application. The interface in version 2 has been totally redesigned, for the better, and a complete rewrite of the memory management and virtual memory systems has improved the performance of the package greatly, especially in page creation and large file handling. There are many more filters and effects to choose from, some of which are very strange indeed, and on slower machines like the A5000, which the program will happily run on, these effects can take some time to generate.

Fortunately the program now features an immediate escape from any function or filter that you do not wish to wait for. The effects can be brushed on using a special tool as in *Photodesk* but the downside is that the whole page is first created applying the effect and buffered and then sampled onto the main canvas. This can take a long time and only paints on the buffered image. The cutting facilities do not work with the magic wand nor does masking, but the pasting quality with the smoothing function enabled produces excellent results.

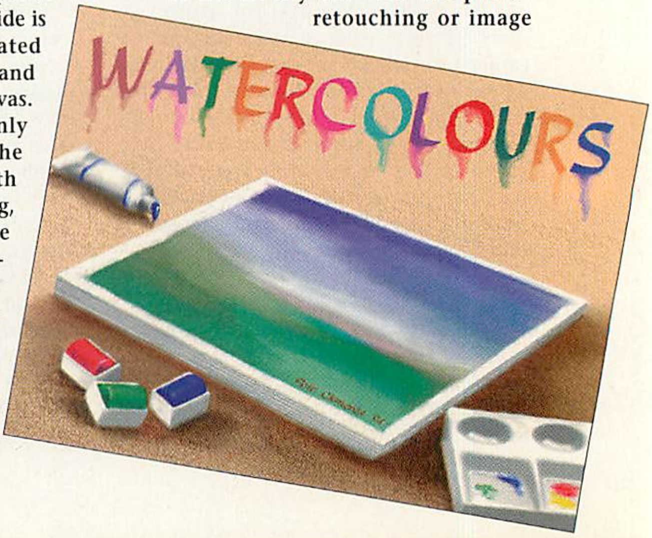
A very useful feature of the program is the way it stores all cut bitmaps, text, and draw files as individual floating objects. These can be conveniently stored on the image boarder, displayed or hidden at the click of the button, and selected, moved rotated and finally transferred to the canvas at any opacity. This is only one step away from true layering which simply allows the floating objects to be displayed with opacity control.

Although *Studio24Pro* has many high-end features such as true CMYK support, the program is more suited to creative origination than scanned bitmap editing or photo-retouching with a view to professional reproduction. This is not to say that it is incapable of performing such tasks but *Studio*'s greatest abilities lie in its superbly smooth brushing with pressure-sensitive graphics tablet support and its wonderful range of creative effects which the artist rather than the photo-manipulator would benefit from. Many *Acorn User* front covers have been created from scratch using this program alone, concrete proof of the power of this creative tool.

Finally, it must be noted that all *Studio24* upgrades are free and Pineapple also offer some of the finest and friendliest after-sales support you will find.

ProArt24

ProArt24 from Clares, is a Risc PC (and A7000) only program which following the lines of its predecessors is very easy to use and equally capable. The main strengths lie not in any one area like photo-retouching or image





Compo is a curious but tasty package



creation, but instead in the way it makes many aspects of bitmap editing and creating accessible to all. *ProArt24* is thus aimed at the lower and middle end user who may not have the same natural artistic prowess that is perhaps demanded of *Photodesk* or *Studio24*, but enables one to create very impressive imagery, especially stylised bitmaps, with unparalleled ease.

Paradoxically, the specification of machine required to use *ProArt24* to it full is at the high end. The program does not offer dithering, even in 32,000 colour modes so 24-bit modes realistically requiring 2Mb of Video RAM are the only way to view the canvas with accuracy.

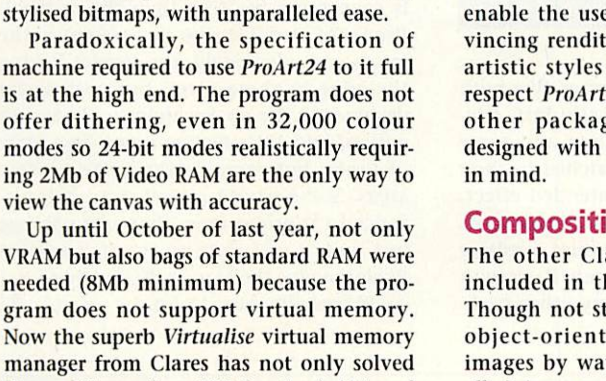
Up until October of last year, not only VRAM but also bags of standard RAM were needed (8Mb minimum) because the program does not support virtual memory. Now the superb *Virtualise* virtual memory manager from Clares has not only solved the problem of no VM for *ProArt24* and *Composition*, but also for all other programs that use dynamic areas like *Impression*.

ProArt24 is the only program to give the user predefined stylised brush tools such as watercolour, charcoal, pastel and oil; about 20 in all. Additionally there is an effects tool which allows you to brush on various filters such as anti-alias, sharpen and curious ones like 'blobby' and 'vaseline'. As already mentioned, these tools enable the user to create extremely convincing renditions of specific media and artistic styles in no time at all. In this respect *ProArt24* stands out from all the other packages but it has not been designed with high end photo-retouching in mind.

Composition

The other Clares offering that I have included in this review is *Composition*. Though not strictly a bitmap editor this object-orientated application creates images by way of bitmap manipulation albeit in an unusual manner. *Compo*'s way of handling all bitmaps as objects, displaying them with effects and attributes that can be altered or reversed at any time makes *Compo* more of a vector package using bitmaps as objects than a bitmap editor.

It has not been designed to – and cannot – generate imagery from scratch. It is especially suited to composing collages of pre-generated bitmaps or scans without the user having to worry about the permanent effects of filters and tiresome undoes, alterations, reapplications or the occasional, scrap this, let's start again. *Compo* does not do much that other packages are now capable of, except that it can achieve the desired effect or complete image in a fraction of the time and with the assurance that if it is not quite right, all you need do is select and alter the characteristics of any of the objects.



The Big Picture – a big surprise

Compo, unlike some of the other bitmap editors does not yet benefit from the refinements of complex smoothing algorithms when rotating or distorting bitmaps, and though extremely fast in some respects, it can be disproportionately slow in others. For instance, the actual 'redraw' of a composition with over ten large bitmaps all interacting with each other because of transparency and masking makes Adobe's *Photoshop* with its layering system look pedestrian, even on a fast PowerMac. Sadly, some functions such as rotation and text manipulation can take long to perform and do not always yield the highest quality result. Having said this, *Compo* should always be used in combination with a bitmap editor and/or a vector package like *Artworks*, as it can import both bitmaps and vector files. This solves, if a little clumsily, nearly all of the problems with *Compo*.

The Big Picture

The Big Picture was, for me, not only one of the biggest surprises of the 1995 Acorn User Show, but also one of the bravest moves by any of the graphics software houses in a long time. This is a sub £75 program that is armed with features such as virtual memory, high quality painting tools, pressure-sensitive graphics tablet support functioning with options for controlling brush size, brush opacity and even pixel dither. Like *ProArt24* it does not diffuse its colours in low colour modes so VRAM, preferably 2Mb, is necessary. It has a masking facility with additive and subtractive modes but 8-bit masking is not possible although for the market that the product is aimed towards, this is not of much consequence.

The Big Picture is as simple to use as *Revelation Image Pro* ever was, yet there is much more to explore and it includes useful features that programs four times its price do not have. A good example of this is the brush editor which gives you many options for brush shape, size, softness, type of dither, shape, and best of all, directional tracking that rotates the brush according to the stroke direction in real time. It also includes the *ImageFS* light module so that many foreign file formats can be loaded directly with the speed that acclaimed *ImageFS* affords.



DA's Picture – a square peg but perhaps the cormers are getting rounded

Overall, *The Big Picture* is quite an extraordinary package for the price, with some very high end features built into a kindergarten interface. But on the down-side, it lacks the tools to class it as a true photoretoucher or even as an introductory one for the lower end users it is targeting, brushing is often not smooth enough for even the most basic creative work.

Future versions will surely address these issues as development is not going to cease and perhaps we may see more filters and some higher end tools allowing the younger user to explore the more advanced possibilities of bitmap graphics.

DA's Picture

DA's Picture has been in hibernation for over a year now, having only sold fifty units into the Acorn market. The reason for including this package in a review dedicated to 24-bit bitmap packages which are actually on sale to the public, is because of recent news of an imminent re-emergence of the program.

Goodness knows why the coding team from Germany insisted that their product was going to sell partly because of the front end design, when everyone who laid eyes on the package questioned the interface. A pity as it is the first time that the Acorn platform had a successful company based on other computer platforms coding a high end bitmap editor and bringing with it much experience and highly perfected routines.

Though *DA's Picture* has now lost many of the advantages it had over programs like *Photodesk* and *Studio24*, it still loads almost instantly, imports image files with equal zest, has a fantastically fast, tile-based virtual memory system and some tools that are simply unmatched in their ability to reproduce the intended effect. Still the pencil, crayon, and finger tools (in conjunction with a pressure sensitive graphics tablet) produce pencil, crayon and finger effects unlike any other package. I do hope that *Picture* finds its way back into the Acorn platform with the redesigned interface and top level cutting, pasting and distortion tools as promised. At the right price, about £50, this would make *Picture* a worthwhile addition to any artist's software setup.

The choice is yours

I am happy to see that there is continuing development but not much market clash between any of the packages at present. All have a very different feel and so subjectively one may be better than the other for different people.

Photodesk has really begun to move away from the others at the highest end, has expanded its creative potential, but has also gone up in price; *Studio24* is still much loved by many artists and version 2 is even more inviting than the original; *ProArt24* and *The Big Picture* cover the lower end adequately, the former having the edge in some ways, but cutting far deeper into the pocket than the Longman option; and *DA's Picture* is still in a state of limbo but remains the best in a few areas. Some would regard it an extravagance to consider more than one package but get a refund on your copy of *Photoshop* for the Mac or PC and you could probably buy the lot. AU

Product details

Product: Photodesk
Supplier: Spacetech
Address: 21 West Wools, Portland, Dorset, DT5 2EA
Tel: (01305) 822753
Fax: (01305) 860483
Email: sales@spactec.demon.co.uk
Price: Photodesk 1 – £169.95 excl VAT, Photodesk 2 – £229.36 excl VAT, upgrade – £59.41 excl VAT

Product: DA's Picture
Supplier: Digital Arts
Address: 1421b London Road, Norbury, London, SW16 4AH
Tel: 0181-679 7307
Fax: 0181-764 7898
Price: £99 + VAT

Product: Studio24Pro
Supplier: Pineapple Software
Address: Suite 13/14 South Park Business Centre, 310 Green Lane, Ilford, Essex, IG1 1XT
Tel: 0181- 599 1476
Fax: 0181-598 2343
Price: £149.87 inc VAT

Product: The Big Picture
Supplier: Longman Logotron
Address: 124 Cambridge Science Park, Milton Road, Cambridge, CB4 4ZS
Tel: (01223) 425558
Fax: (01223) 425349
Price: £73 excl VAT plus p&p

Product: ProArtisan 24 & Composition
Supplier: Clares
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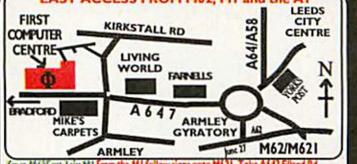
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The style is fun, the layout easy to follow, and the information bursting at the seams. *Acorn User* has negotiated a special price for its readers enabling them to save £4 or more on each book. Of course, being American in origin, the books have never heard of an Acorn compouter, but if your interests stretch to other areas of computing, these books are essential reading. The *PCs* and *Macs for Dummies* titles will be especially useful for someone with both an Acorn and another computer who is just discovering that not all operating systems are as straightforward as RISC OS.

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My only question is; what will they cover next – Acorns for Dummies?

David Matthewman
Editor, Acorn User

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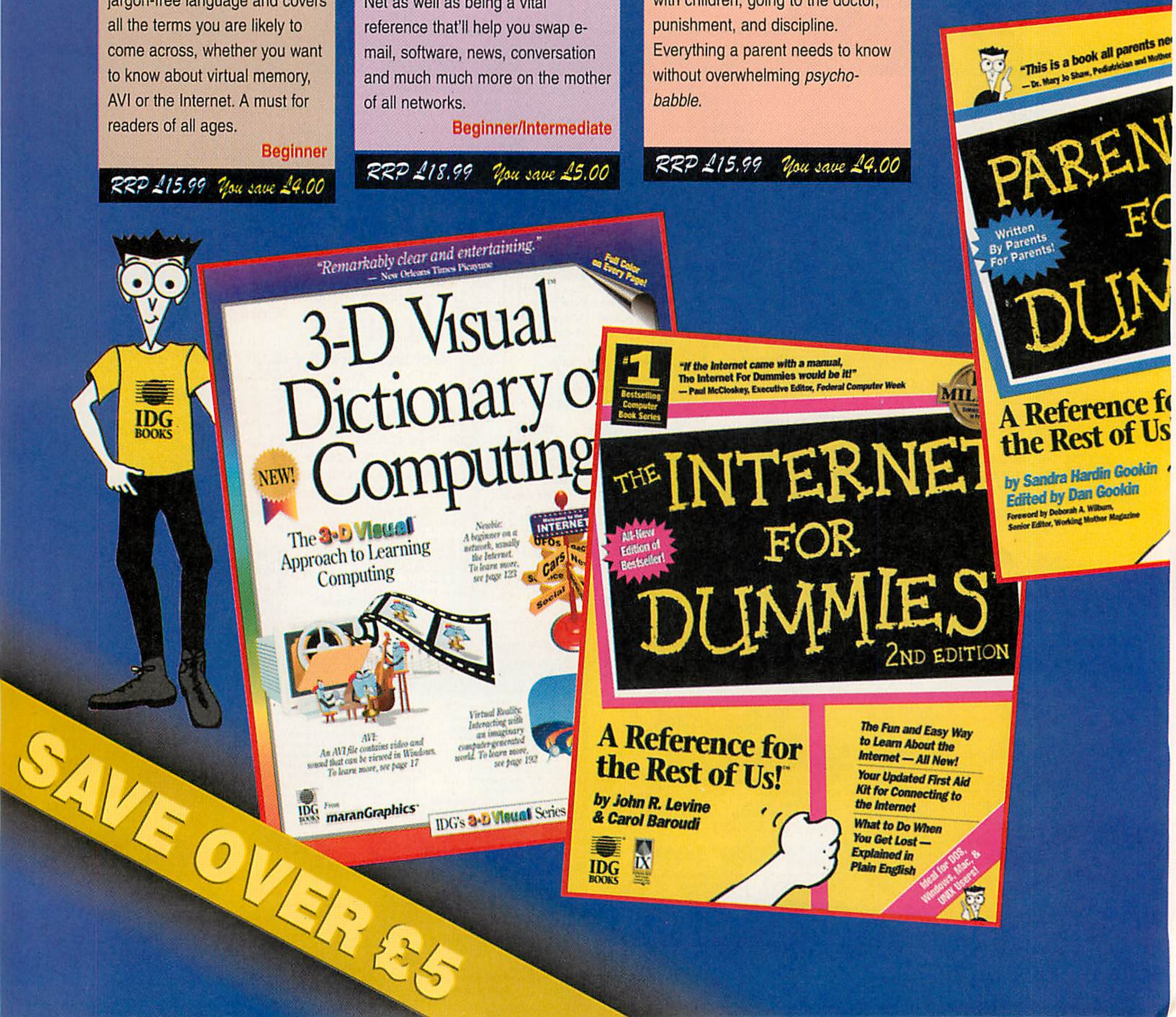
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Is digital **video editing** a practical thing to do?

Leo Telling looks at the ins and outs of video editing on the Acorn systems proving that there is more to multimedia than CDs

In case you've been living in a small wicker hut on a remote south sea isle, there's something about the world that might have passed you by – it's become disc-shaped. While members of the flat earth society aren't celebrating just yet, the last five years or so have seen a massive increase in digital disc-based storage.

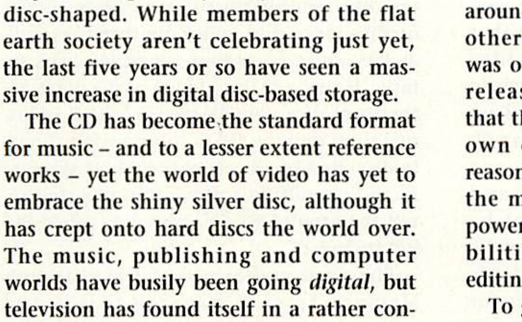
The CD has become the standard format for music – and to a lesser extent reference works – yet the world of video has yet to embrace the shiny silver disc, although it has crept onto hard discs the world over. The music, publishing and computer worlds have busily been going *digital*, but television has found itself in a rather contradictory position.

Most programmes are shot on tape (in analogue format), but are transferred straight away to disc for editing (in digital format) – but are then put back onto tape before being beamed into our homes, again in analogue format. Thankfully all this confusion is set to end, and quite soon; probably before *Acorn User* goes digital, and certainly sooner than home video recorders succumb to recordable CD technology.

However you could get one step ahead of the game and start your own disc-based digital video revolution right now...

Digital video editing systems have been around for some time on other platforms, but it was only really with the release of the Risc PC that they came into their own on the ARM. The reason for this is simple – the massive computing power and storage capabilities required for editing video.

To give you an idea of the problems involved consider one second of full screen video – 768 by 576 pixels, at 24-bit resolution, multiplied by 25 frames per second. Do your sums right and this works out at just over 31Mb, the same storage space as 5,000 pages of text. Let's face facts, you can't get far with a floppy disc in this game. However, clever software and ruthless compression techniques have cut this massive figure down to size, making real-time compression a possibility for the home computer user.

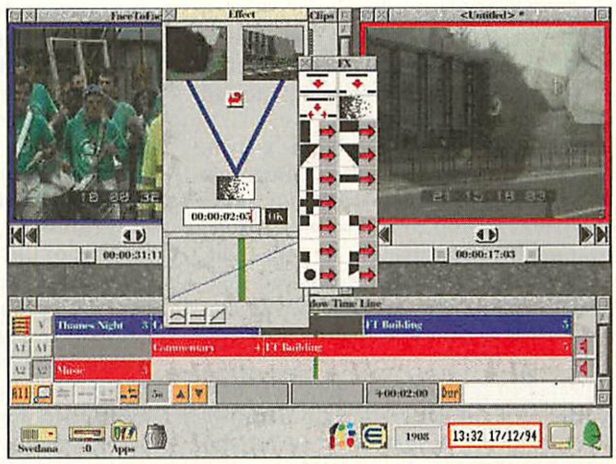


Empire was first but lacked professional facilities

The first wave

The launch of the Eagle card brought reasonable quality video capture to the masses, albeit within the confines of a 160 by 120 rectangle. The only problem then was what to do with it. Uniqueway provided a solution in the form of *Empire*, and latterly *Empire 2*. This provided basic video and audio editing capabilities, but was a far cry from the professional packages being developed by companies such as Avid and Lightworks.

Some competition appeared for the Eagle card in the shape of Irlam Instruments' 24i16, which not only offered the ability to grab a full-frame image, but which also had the edge over the Eagle card in terms of picture quality and better sound performance. However, improvements in hardware performance were not matched by software until the launch of *Eidoscope*, developed by Eidos as a cut-down version of the professional *Optima* system, and marketed by Computer Concepts as the perfect companion to their *Eagle* card. The secret behind Eidoscope's speed was two fold.



EidoScope's classic twin view display

Firstly it used its own proprietary Codec (COmpressor/DECompressor module), which enabled real-time compression of video to disc, and secondly the editing side manipulated not the video clips themselves, but a simple text file that instructed the processor which bits to play in which order. As mentioned earlier video data, even compressed video data, is huge and shuffling tens of megabytes of video clips around will slow down even the fastest machine. By simply pointing to which clips with a short text file, *Eidoscope* could



truly fly. The other advantage was that its interface actually looked quite like a traditional edit suite, and was simplicity itself to use.

The downside of the Eidos codec was quality. Resolution was nominally 160 by 120 pixels, but the compression degraded this further, and video could only be captured at 12 frames per second, making finished movies look pretty rough. Despite these drawbacks the Eagle/*Eidoscope* combination could give the home or school user a real taste of what digital video editing is all about.

Horses for courses

Last year another product appeared on the scene that was set to change the goal posts once again. *CineWorks* from Oregan Developments was an open-ended application whose limitations were really only imposed by the hardware. Given a fast enough processor and large and fast enough hard discs *CineWorks* claimed to be able to edit full screen high resolution video. Not only that but it offered a wealth of video effects as well as the ability to add plug-in effects at a later date.

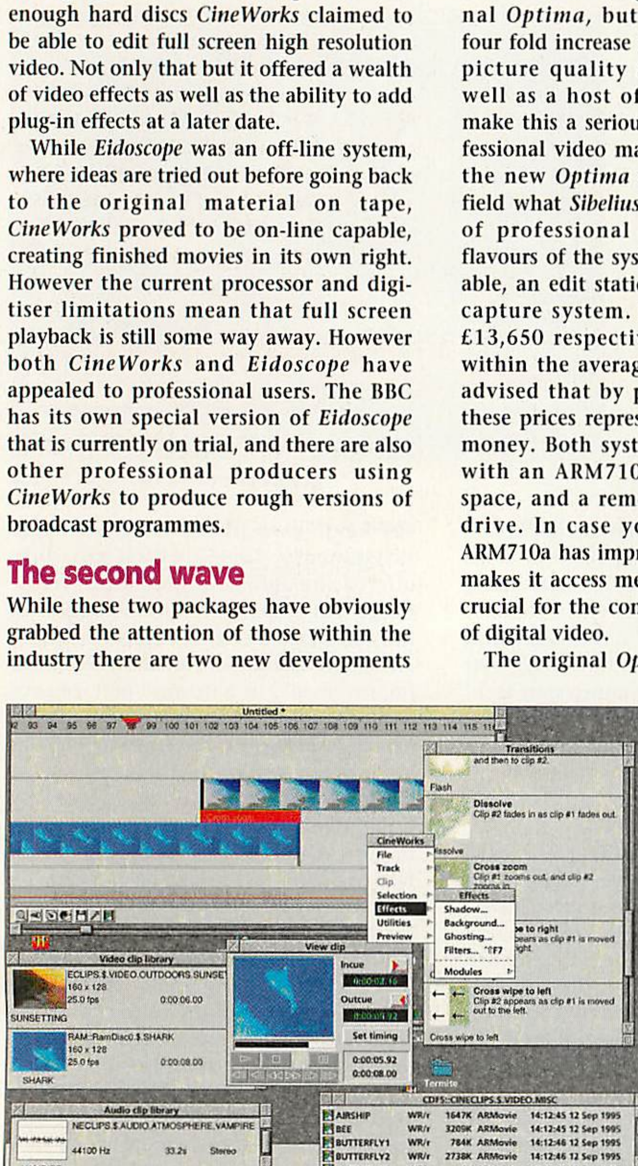
While *Eidoscope* was an off-line system, where ideas are tried out before going back to the original material on tape, *CineWorks* proved to be on-line capable, creating finished movies in its own right. However the current processor and digitiser limitations mean that full screen playback is still some way away. However both *CineWorks* and *Eidoscope* have appealed to professional users. The BBC has its own special version of *Eidoscope* that is currently on trial, and there are also other professional producers using *CineWorks* to produce rough versions of broadcast programmes.

The second wave

While these two packages have obviously grabbed the attention of those within the industry there are two new developments which really could raise Acorn's profile in the digital video arena. Aimed more at professional and training markets, Eidos is currently beta-testing *Optima Mark 2.*

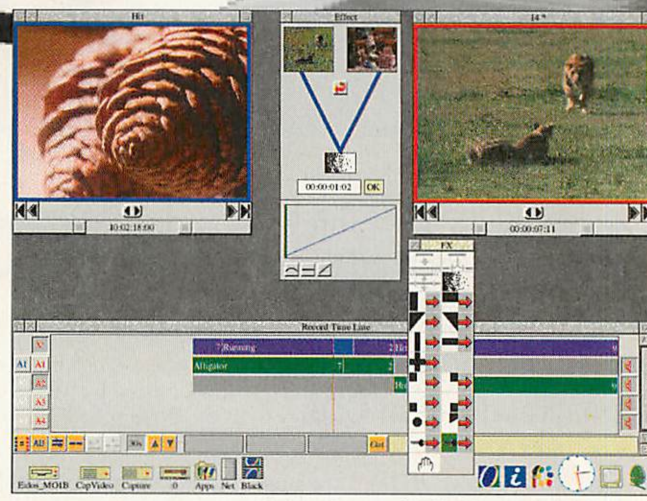
From a first glance it may look similar to the original *Optima*, but a four fold increase in picture quality as well as a host of other improvements make this a serious contender in the professional video market. There is talk that the new *Optima* could do in the video field what *Sibelius* has done in the world of professional music making. Two flavours of the system are currently available, an edit station, and an editing and capture system. Priced at £8,700 and £13,650 respectively they may not be within the average users budget, but be advised that by professional standards these prices represent excellent value for money. Both systems include a Risc PC with an ARM710a, loads of hard disc space, and a removable magnet-optical drive. In case you're wondering, the ARM710a has improved cache lines which makes it access memory faster, something crucial for the compression and playback of digital video.

The original *Optima* was well used in the broadcast industry and has an impressive list of credits covering BBC 1, BBC 2, ITV and Channel 4 as well as a number of non-broadcast programmes produced for companies such as Vauxhall, British Rail and the RSPCA.



CineWorks has the potential – but needs the hardware

The other interesting release is a new hardware device from Irlam Instruments. The version I saw was still under development, but looked on course to be ready by the time you read this. *VideoDesk* is not one but two boards offering professional quality video and audio digitising, as well as PAL encoded output for replay back to tape. However, the clever part comes in the form of a daughterboard which offers real-time moving JPEG compression direct to disc. Best of all is that the whole system, including editing software, is expected to sell for around £1,600 plus VAT (Risc PC not included).



Optima 2 is superficially the same as *Eidoscope*

The card makes use of DMA (Direct Memory Access), meaning that it can update large real-time displays within the RISC OS desktop, and pre-compresses the video on the card so that larger, faster frame rate movies can be digitised direct to disc. Playback is also under hardware control, and at the highest quality settings its hard to tell digitised material from *live*.

Using a Risc PC 700, fast IDE interface and about 8MB of RAM the card can achieve data rates of around 1 Mb/sec, which translates to a picture quality better than VHS. The data rate is fully scalable, meaning that you can trade-off picture quality against storage requirements. Using the moving JPEG format means that compression isn't as good as with MPEG, but MJPEG files are easier and faster to edit, and with the price of storage dropping all the time, the speed trade off is well worth the increase in file size.

Why go digital?

There are a number of reasons why you might want to record video to disc, but most people fall into one of two categories. Either they are interested in creating digital video clips for playback on computer – for example as part of games or CD-ROM titles – or else they want to edit movies and play them back out onto



tape, such as editing home movies or professional video production. For either task there are five basic elements required;

i) A computer – preferably ARM powered – to control the whole shebang

ii) Some mass storage – we're talking gigabytes here

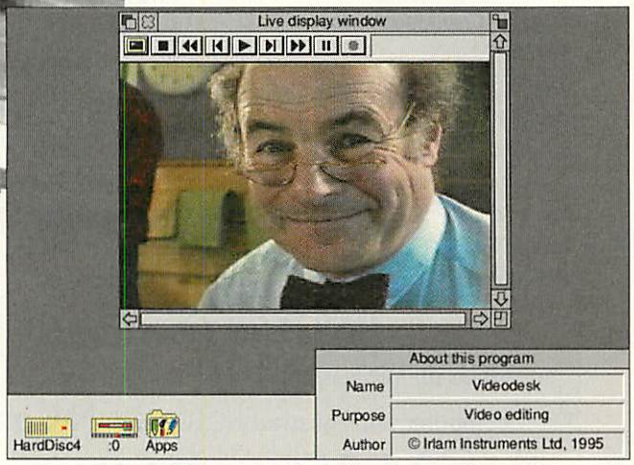
iii) A means of getting video into the computer – a digitiser card such as the Eagle or 24i16 cards

iv) Some editing software, the means of doing all those clever tricks you see on TV, and finally

v) A way of getting your master piece back out onto tape (a genlock or PAL encoder) – until second generation CD-R becomes available a Risc PC is never going to be the most portable playback device in the world, now a laptop version could be a different story...

In conclusion

Back in the real world there are a number of choices that anyone interested in video can make, depending on your budget and needs. A dream system would probably consist of the latest instalment in the *Optima* saga. Their entry system will set you back about the same as a middle of the range four-door saloon car, but if you're a professional user then this is small change for a system of this power. The *Optima* package offers up to eight audio tracks, full control over video, 77 levels of undo, real-time rendering of wipes, dissolves and keying effects, as well as unlimited storage potential by using removable magneto-optical discs holding up to two hours of video each.



VideoDesk uses lots of hardware with excellent results

What makes this a truly professional system is the ability to handle timecode and save an Edit Decision List (EDL). Timecode is the professional version of a tape counter, and an EDL provides the timecodes of every clip used in the final version of a programme – enabling the original tapes to be automatically edited together.

For the discerning amateur, semi-professional, or enthusiast who is considering buying two high quality SVHS machines to edit home footage together, then hang on for VideoDesk. The quality offered by this system is astounding, and if the editing software is right then it could make tape based editing a waste of time. Even better news would be if Eidos also adapt the *Optima* system to work with the VideoDesk card – this could lop off about £3,000 from their prices.

If you want to produce Replay compatible files for playback on computer then *CineWorks* plus 24i16 is the ideal starter combination. *CineWorks* offers enough gadgets and gizmos to keep anyone happy, and while it doesn't fully mimic a professional non-linear system, there is little that can touch it in its price range. The 24i16 card will squeeze the best out of your audio and video, and with the full screen capture option it also makes an excellent frame grabbing device.

Despite the technical superiority of *Eidoscope* it has to be the least favoured option in practical terms. While it is undeniably the fastest of all the amateur options, the quality just isn't good enough, making it difficult to see what practical end result it could be used for. Where it might be useful is in a school or training situation where all that is required is teaching the basics of video editing with a minimum of outlay. The best advice before purchasing any of these combinations, the cheapest of which is over £400, is to try before you buy, if it doesn't do what you want then see which system can. It won't be long before all video editing is done from disc, and from the look of things Acorn could be at the centre of a very lucrative revolution. AU

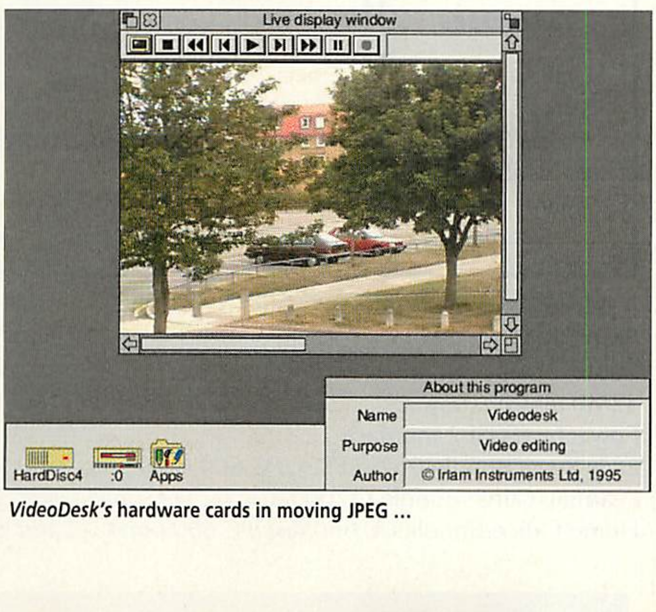
Product details

CineWorks: Oregan Developments 0121-353 6044

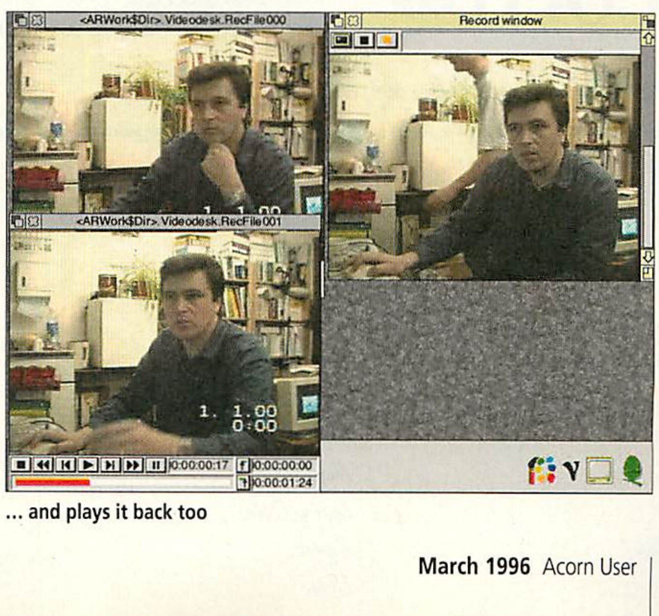
Optima: Eidos 0181-941 7899

Eagle/Eidoscope: Computer Concepts (01442) 63933

VideoDesk: Irlam Instruments (01895) 811401



VideoDesk's hardware cards in moving JPEG ...



... and plays it back too

Printers to suit

Steve Turnbull, Chris Drage and Karen Peach put some colour printers through their paces

Although monochrome (black/white/greyscale) printing is very affordable and may be all that you require, in the main, for business work, colour printing does open up a whole new dimension of computer use and for children particularly it can prove a motivating influence on the use of art and presentation software.

Projects really take on a professional touch when printed in colour. Technology is quickly getting to the point where even holiday snaps look better on screen than from the local processing shop, so a good quality inkjet colour printer can help to bring a few to life - not in the quality that they will appear on-screen but as a pretty fair representation.

Points to remember

Although more expensive (up to 50p/sheet) it is worth keeping a small supply of this costed paper as the improvement in print quality is substantial and is worth having for special occasions. More common perhaps is the natural desire to spend as little money as possible - I know it's been said many times, but with printers the old adage: *You only get what you pay for* is very true.

Buying cheaply usually means inconvenience in use, and maybe heavy running costs to boot, not to mention the likelihood of poor reliability and scarce technical support. Be wary of 'Special Offers' these can be printers which have quickly been superseded by newer models and thus could land you with a white elephant.

Another point to keep in mind is the fact that several suppliers badge low-cost models of a similar type. Thus you can find the same generic printer appearing under several brand names: Olivetti JP360, Citizen Projet IIc and Mannesmann Tally T7118C - prices range from £269-280 RRP.

A low-cost inkjet printer uses a two-cartridge system to deliver either monochrome or colour ink. It is essentially aimed at the low-end of the printer market and as such can hardly be considered robustly made and as you might expect, the printed results are a bit of a compromise.

A black printed with the colour cartridge turns out to be a dark, muddy brown/grey. At 300 dots per inch (dpi), the overall printing quality seems OK until you compare it the results you get from the more pricey Epsons and Canons of this world. Low cost printers perform best with text and graphics which have areas of bold colour without subtle shades.

Hewlett Packard

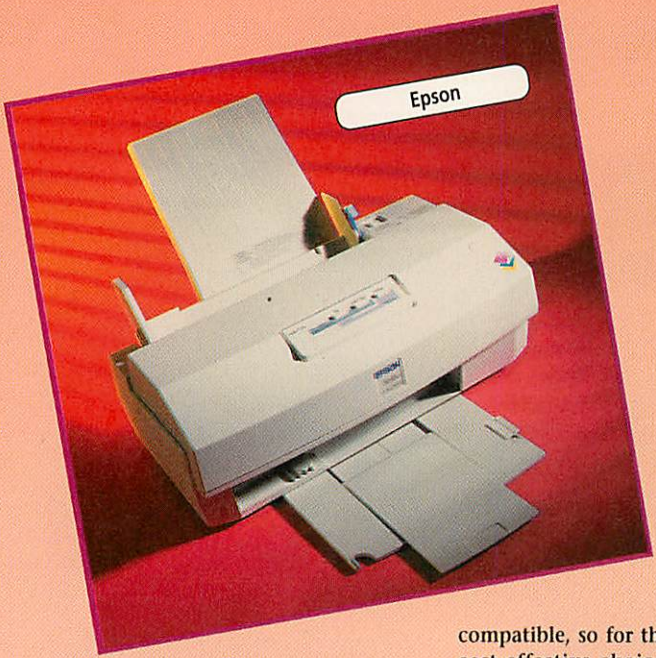
Undoubtedly, Hewlett Packard is a market leader in the inkjet market. It is not by accident that their DeskJet series has virtually been adopted as an industry standard. Hewlett Packard's latest low-cost **DeskJet 600** is a monochrome printer for which you can purchase a colour kit. This lets you swap the black ink cartridge for the colour one whenever you need colour printing. Unfortunately, although the system works well, the inconvenience of swapping cartridges can prove inconvenient at times.

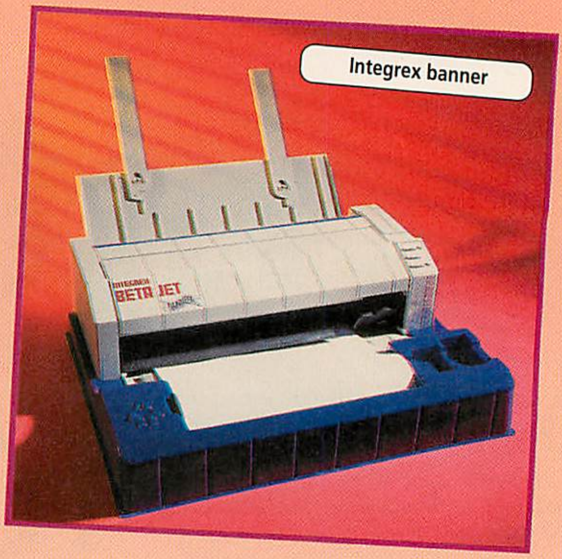
However, its combination of colours comes out as a much better 'black' and the colours are brighter too thanks to HP's ink formulae. The black prints at an amazing 600x600 dpi. Similarly, this printer feels robust and well built using the same system of paper delivery as the 500 and 550 models before it.

The **HP Deskjet 850C** is a colour choice. This produces 600dpi black text and sharp 300dpi colour images, using HP's Colour Resolution Enhancement technology provides even more vibrant and rich colours. All types of paper can be used including coated, glossy, labels and transparencies. It has both an envelope and single-sheet feeder for ease of use and as it handles different media sizes it saves changing paper trays. Prints speeds are up to 6 ppm for monochrome and up to 2 ppm for colour printing.



Hewlett Packard





Epson

Epson, like HP have been market leaders for years producing high quality printers, the latest of which is the **Stylus Colour IIs**. This printer uses a print head which is built into the machine so ink cartridges are a tad less expensive. It too, uses special inks which are bright and do not disperse over the paper.

There are even special coated papers available for printing at a remarkable 720x720 dpi. The Stylus Colour IIs is very well made – it positively shouts durability and comes with an extremely good range of documents from the handbook and illustrated colour printing guide.

This printer effectively combines the original Epson Stylus Colour II and the Stylus 820 monochrome by allowing you to swap the cartridge. Not the most elegant action but keeps costs down as if you're doing mono-only work you can just use the black cartridge. You get both print qualities at 720 x 720 dpi and it'll print on to OHP film. The printer comes with a three year warranty as well.

Integrex

Integrex have been producing colour printers longer than just about anyone else and have come in with their low-cost **Beta Jet Banner**. It's an economical option that produces laser-like results on a wide variety of paper. A paper roll holder is supplied which holds a 30 metre roll for banners, it also prints successfully on envelopes, labels and transparencies for overhead projectors. As it's compact, it's ideal for the home user and in schools.

It uses cartridge swap for the colour/mono options and the resolution is 300x300 dpi in both modes, print speed varies from 2.5 mins/page for colour and up to 2 pages/min for monochrome.

It is Colourjet 132 and HP Deskjet 500 C compatible, so for those upgrading it is a cost effective choice. If this is still not enough to tempt you then, as a further incentive, Integrex are offering £50 worth of Acorn Banner software free with every purchase of the Betajet Banner printer.

The **Beta Jet C** is another inkjet printer from Integrex. Again it is compact, easy to use and accepts most types of plain paper. including film for OHPs. A single sheet, automatic sheet feeder is optional as is a monochrome cartridge if desired. The resolution on colour printing is up to 300 x 300 dpi and is the same for monochrome in graphics mode. It prints reasonably quickly in both modes and is also HP Deskjet 500C or Colourjet 132 compatible.



Product details

Product: Beta Jet C and Beta Jet Banner printers
Supplier: Integrex Systems, Church Gresley, Swadlincote, Derbyshire DE11 9PT
Tel: (01283) 550880/551551
Fax: (01283) 552028
Price: Beta Jet Banner (incl. cable, RISC OS driver and Banner II software) - £229 + VAT
Beta Jet C (incl. cable and RISC OS driver) - £139 + VAT
Auto sheet-feeder (A4) - £20 +VAT
Black cartridge - £14 + VAT

Product: HP DeskJet 850C and DeskJet 600
Supplier: Hewlett Packard, Cain Road, Bracknell, Berkshire RG12 1HN
Tel: (01344) 360000
Fax: (01344) 361271
Price: DeskJet 600 – £243 + VAT, DeskJet 850C – £440 + VAT

Product: BJC-610
Supplier: Canon, Canon House, Manor Road, Wallington, Surrey SM6 0AJ
Tel: 0181-773 3173
Fax: 0181-773 2182
Price: £449 + VAT

Product: Stylus Colour IIs
Supplier: Epson, Campus 100, Maylands Ave, Hemel Hempstead, Herts HP2
Tel: (01442) 61144
Fax: (01422) 227227
Price: £249 + VAT

Product: LC-240C
Supplier: Star Micronics
Address: Star House, Peregrine Business Park, Gomm Road, High Wycombe, Bucks, HP13 7DL
Tel: (01494) 471111
Fax: (01494) 473333
Price: £179 + VAT

Star Micronics

The Star Micronics is the **LC 240C.** This is a 24-pin dot matrix colour printer with an automatic sheet feeder built in. As an option it also has a low-cost push tractor for £15. As always Star have produced a low priced machine that works well but being a dot matrix it's quite noisy in comparison to the inkjet printers and loses out in cost-effectiveness because it needs a colour ribbon.

The ribbon cartridges are easy to swap and the design makes them accessible — Star have a lot of experience in this field. The quality of printout is not up to that of most inkjets.

Canon

Higher up the price scale is the latest Bubble Jet printer from Canon, the **BJC-610.** It has an automatic sheet feeder which holds 100 pages and can print at *720x720* dpi which is very nice indeed

It can print on usual media range including Canon's unique back print film, which can be used for backlighting and window displays. It uses four separate colour cartridges which allows individual ink tanks to be replaced when empty, cutting running costs. AU

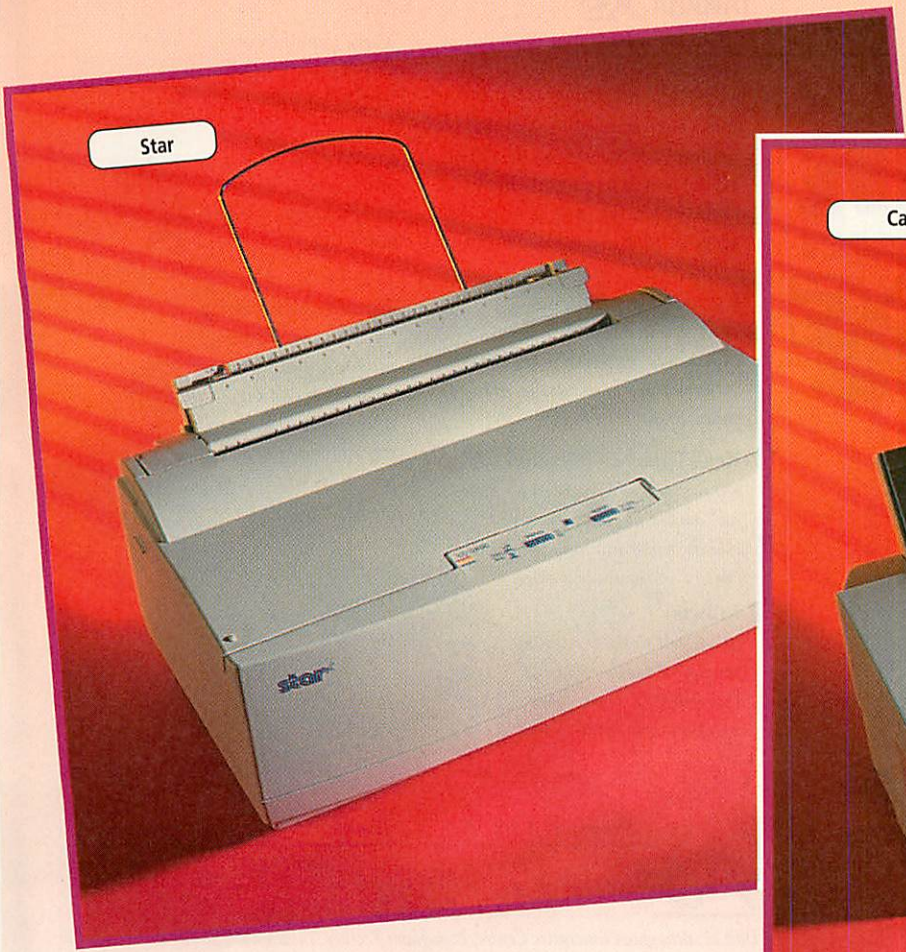
Inkjet ink refill systems

Using a proprietary recharging kits undoubtedly leads to substantial savings (typically 50 per cent +) for very little extra effort. Most printer suppliers frown on these – they feel it's analogous to putting unleaded into a car designed for 4-star.

But if you choose your ink carefully opting for a good brand from a reputable supplier you should have few problems. A friend of mine has been successfully refilling with Premier inks for two years now. Ink refill kits are popular because they bypass the need to purchase a new cartridge each time a colour runs out.

For printers like Hewlett Packard range changing a cartridge can be quite expensive. Here a system like CartridgeMate (Davyn Computers (01924) 54800) can save you pounds with very little inconvenience to boot. With the Canon you have to be a little more choosy with your inks as its separate printer head is an expensive item. If it gets blocked, you won't get much change out of £150.

Among the best inks are Premier (Kimberley Computer Supplies, tel: (01942) 677777), Graphic Utilities (Misco, tel: (01933) 400400) and Themis (Themis UK, tel: (01883) 330333). I have had mixed reports with InkMun products some users have reported experiencing problems with these inks while others report few problems. System Insight (tel: (01707) 395500) is reputable purveyor of these inks. Refill ink colours never quite match the printer manufacturer's inks, but the savings to be enjoyed really make the compromise worthwhile providing you don't endanger your print head by using low quality inks.



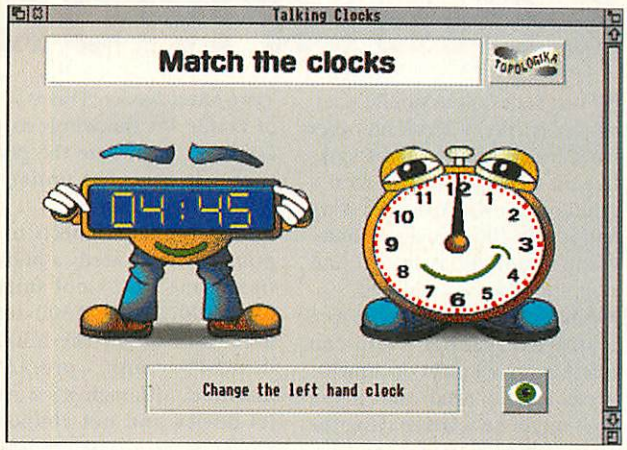
Star



Canon

Time to tell

Colin Rouse looks at software to help children learn to tell the time



Learning is fun with *Talking Clocks*

It has long been my belief that children learn to tell the time by practising, using watches and clocks at home and at school, which is supplemented by examples in mathematics work and questions from teachers and parents.

It is sad then, that children are no longer able to tell the time as well as they used to. Much of the blame must lie with the advent of digital displays. Children don't seem to use quarters and half hours or even understand them any more. When asked the time, they answer in hours and minutes as in the digital display. Children also don't seem to be able to convert digital time to analogue time and vice-versa. It was reassuring, therefore, to find two software packages that were able to help children overcome this problem.

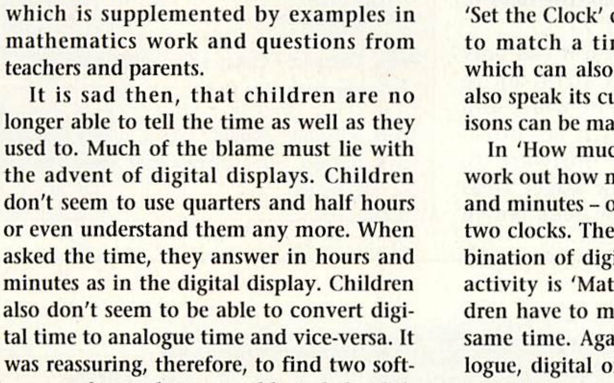
Topologika's Talking Clocks

This package encourages children to explore the world of clocks, learning to read and set them as they go. The clocks can be analogue, digital or both and will speak the time when you click on them with easy to understand sampled speech.

The program is split into four parts. In 'Say the time', children are encouraged to build sentences, by clicking on words or numbers, which will then speak the time shown on the analogue or digital clock. In 'Set the Clock' children have to set a clock to match a time set by the computer, which can also be spoken. The clock will also speak its current time so that comparisons can be made between the two times.

In 'How much Time?' children have to work out how much time there is, in hours and minutes – or just in minutes – between two clocks. The clocks can be in any combination of digital and analogue. The last activity is 'Match the clocks' where children have to make the two clocks say the same time. Again, the clocks can be analogue, digital or both. This is also a good activity to use if you want to check whether children can convert from one type of clock to another, working in am, pm or 24-hour clock times.

All four activities can be 'tailored' to meet the needs of individual children. Times can be set to am, pm or 24-hour clock notation and the activities can also be configured to use particular times. All four activities record children's work as an aid to assessment, there is an option to print out how they did and the program is fully configurable to suit the individual needs of all pupils.



Everything goes like *Clockwork*

Clockwork from Resource

Clockwork is another software package that will help children learn to tell the time in a variety of ways at varying degrees of difficulty. Again, the software options are split into different activities. In 'show time' the clock can be made to show a particular time in a variety of ways, modes and styles with questions to check on a pupil's progress. In 'set time' the pupil has to set a clock to a particular time, chosen by the computer. There is also the opportunity for pupils to put the time in context by answering questions like "School starts at.....". To make this activity more appropriate there is the opportunity for the teacher or parent to pose their own questions.

The questions in the package can be set to meet the needs of individual pupils and random questions can also be set. The questions may be in am, pm or 24-hour mode. One interesting development in this package is the ability to pose questions dealing with the year as well as the day thus introducing pupils to the idea of time cycling through the year. Questions may include, "What is the tenth month?" etc.

In conclusion

Both these packages were well received in the classroom with pleasing results. They are both easy to use and self-explanatory. The children were able to check on their own progress and discover where they needed to put in extra work to overcome a specific problem. In my opinion they deserve a place in any primary school software collection to support work on time. AU

Product details

Product: Talking Clocks
Supplier: Topologika Software
Tel: (01326) 377771
Price: £35 + VAT

Product: Clockwork
Supplier: Resource
Tel: (01509) 672222
Price: £30 + VAT

IN BRIEF

ColourMobile scanner

The Irlam ColourMobile scanner is cute. There's no other word for it; at first sight it looks like an oversized mouse with a mind of its own. You start it up and it rolls slowly over a photograph, scanning as it goes and stopping when it's finished.

You don't have to use it as a motorised scanner – you can roll it over awkward documents if you feel the need – but if you do it might be worth buying the extra sheet feeder. This is a sort of cradle for the whole assembly to sit on, where the photograph is then fed under the stationary scanner.

The scanner connects to the printer port; it needs a bi-directional one so it's not suitable for A300, A400, A500 series machines or for the A3000 – basically any pre-A5000 machine. Although it's a parallel device and not connected via SCSI, it's still creditably quick. A 200dpi 15-bit scan of a 5in by 4in print took 64 seconds, which is well up there with the cheaper flatbeds. Unlike other sheet-fed scanners I've seen, it didn't seem to mark or scratch the prints as it dealt with them, although obviously it pays to keep the kit clean and grit-free.

On the negative side, the result was not as good quality as a flatbed scan. The colours weren't reproduced all that well (red suffered badly) and there was fringing around some sharp edges. The maximum resolution of 400dpi would never satisfy professional users, but is fine for anyone else and, indeed, the scanner was very good at picking up fine detail even in dark areas.

As the scanner wrote straight to memory, scans are limited by the amount of RAM in your machine. My 9Mb Risc PC couldn't cope with a 24-bit scan of a print at 400dpi, which seems an unnecessary limitation – why can't it stream the data to disc?

Also it can only scan strips up to 4.12in wide, and there is no 'stitching' software to allow larger areas to be scanned in strips and automatically re-assembled. This is a good scanner for schools and home DTP users who need to scan in small colour pictures.

The extra cost of an A4 flatbed does get you larger, higher-quality scans, but not everyone needs this, and it is this gap in the market that the ColourMobile fills and fills well.

Jill Regan



For such a small scanner, the detail on this 5 by 4 print is impressive.

Product details

Supplier: Irlam Instruments
Tel/fax: (01895) 811401
E-mail: sales@irlam.co.uk
Price: £239.70 inc VAT

Pros: Compact • Cheap • Connects to the parallel port • Quick

Cons: Maximum 400dpi • Lower quality than a flatbed • Only allows small area to be scanned

ACross

If you're the sort of person that regards the *Telegraph* prize crossword as a diversion during five-minutes coffee break, then *ACross* isn't for you. If, however, you take one look at the cryptic crossword and turn straight to the small 'quick' crossword on the back page instead, read on.

ACross is an application that generates crosswords. Although it will print them out, its primary use is probably solving them on the Desktop while you take a break from word-processing, score-writing or Web wandering.

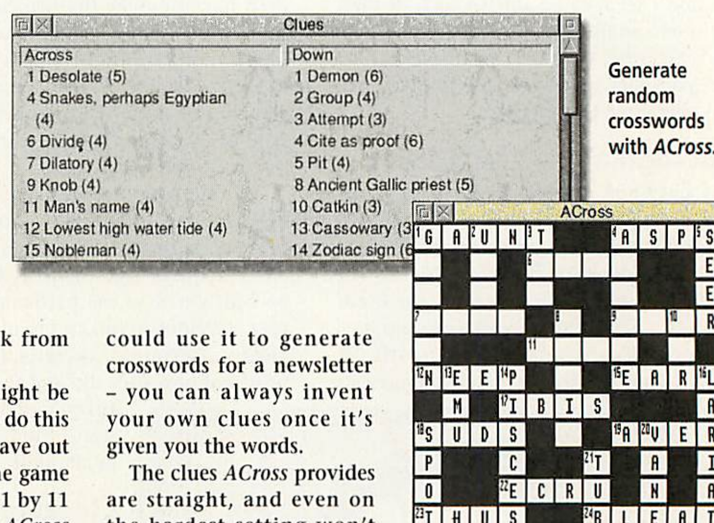
There are a few things that *ACross* doesn't do that it might be expected to. While you can save your position, you can only do this for one game – it would be more friendly to allow you to save out several different positions. There isn't any way to re-start the game without quitting the program, and grids can only be up to 11 by 11 squares. Having said that, it's easy to get over-critical of *ACross* because it isn't like newspaper crosswords; it's not really meant to be. It's the sort of program that you'll fire up when you're feeling bored, tackle for a few minutes and then go back to whatever you were doing to start off with. Alternatively, you could use it to generate crosswords for a newsletter – you can always invent your own clues once it's given you the words.

The clues *ACross* provides are straight, and even on the hardest setting won't cause many problems to experienced crossword solvers. You can buy extra dictionaries for it if you exhaust the possibilities of the one provided, though even with the one dictionary *ACross* did vary the clues for the same word.

£24.99 is on the pricey side for this sort of software, particularly as it doesn't really come with any frills. It is well-presented in a clear plastic box with an attractive cover, but so are many cheaper programs.

No software under £30 can really be classed as expensive, but being at the higher end of this group pitches *ACross* against some stiff opposition.

David Matthewman



Generate random crosswords with *ACross*.

Product details

Supplier: Kudos Computing
Address: PO Box 193, Gloucester GL3 2YG
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Pros: Diverting program • Well-presented

Cons: Only one crossword at a time • Limited crossword size • Not for crossword experts

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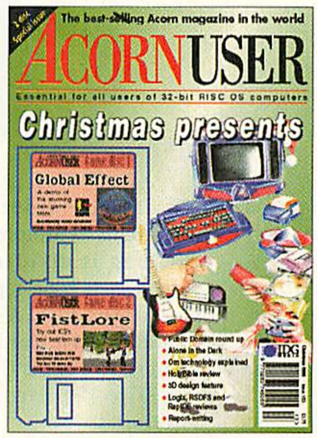
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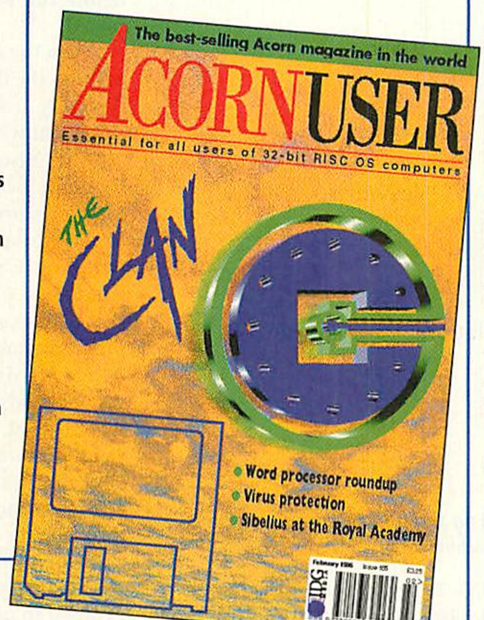
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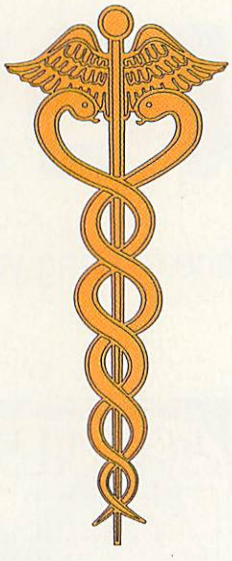
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Sergio Monesi explains what can go wrong with your hard disc and provides a suite of programs to cure any possible problem

Disc doctor

RISC OS filing systems are structured (like many other parts of the system) in a modular way. The typical filing system, ADFS for instance, is organised in a three-layer fashion, where each layer corresponds to a relocatable module.

The top layer is always embodied by the *FileSwitch* module; it functions as a central reference for every filing system and provides a set of common file operations, for example create, copy, delete, but doesn't deal with the organisation of the data on the physical media.

The *FileCore* module provides the mid-layer functions; it organises the data to be stored on the disc (hard, floppy, RAM or otherwise) so it actually performs all the file operations when FileSwitch wants them. The lowest layer is provided by the ADFS module itself; it controls the hardware interface so that it can read, write and verify the sectors required by FileCore.

The filing systems SCSIFS and IDEFS supplied by different hardware makers also follow this scheme – they replace ADFS in the lowest layer – while other filing systems such as ResourceFS directly replace both FileCore and ADFS. Image filing systems like *ArcFS* generally work on top of a FileCore-based filing system and always interface directly with FileSwitch. I will now deal specifically with FileCore since it is the most important and complex part of all the filing systems that store data on hard discs.

Inside FileCore

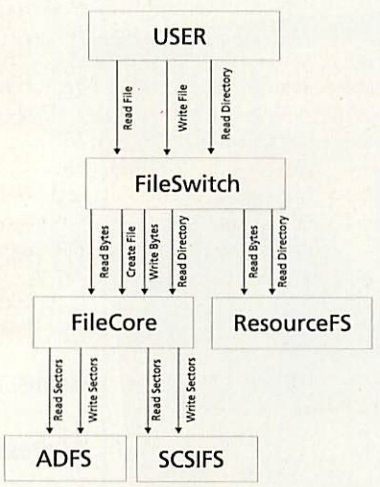
Every FileCore hard disc contains three main structures: the bootblock, the map and the directory tree.

The bootblock is always stored at a fixed disc address – at the beginning of the disc – and is read by FileCore when the disc is mounted. It contains the size and 'shape' of the disc, the list of defective sectors and all the information needed to calculate the address and size of the map.

The map tells FileCore where the files and directories are stored on the disc surface and contains a list of the unused sectors. In order to keep FileCore operations as simple and fast as possible, the map is divided into a number of zones, each zone representing a different part of the disc. A zone is divided into 'chunks'; each chunk has a well defined address, size and a file identification number (file ID) used for both files and directories.

The directory tree is the part of a FileCore disc that is most obvious to the user, since it keeps files and directories organised in the hierarchical structure as shown by the Filer.

Every directory stores all the information about the files it contains: these include name, size, type, creation date, access privileges and the System Internal



How the filing system hierarchy works on a standard machine.

Number (SIN). This number is very important for FileCore because it contains the file ID (as stored in the map) and the sector offset (used to sub-allocate a large map chunk to two or more different files); using the SIN and the data stored in the map FileCore can access any file on the disc.

When these structures are in a working condition (i.e. most of the time) the whole system works fine, FileCore is able to read the files stored on the disc and to find a place to store new ones.

Unfortunately this doesn't always happen due to a number of possible faults that can't always be predicted or prevented. In fact, most of the write operations performed by FileCore involve some changes in both the map and the directory tree.

These operations must be performed together – but the disc head movement and the sector writing actually take some time. During this time (short from our point of view but long from the point of view of a processor running at 30MHz) an antisocial program running in the background may crash the system or a sudden power cut may turn the computer off before the write operation has been completed.

When the system is rebooted and FileCore accesses the disc, it will find the map or the directory tree in a corrupted state and its behaviour will be unpredictable.

Other disc corruptions could be caused by some bugged program writing over FileCore's private memory; this could lead to any form of corruption since FileCore will surely not behave properly in this condition.

We also can't ignore the fact that every program can access the disc at low level, hence writing sectors anywhere on the disc and possibly corrupting any FileCore structure; at least one known virus writes random data over the bootblock making your disc completely useless. Physical disc errors can be very annoying, especially if they appear on a sector used by a directory or by the map; these are the most often written sectors and so are more exposed to physical degradation.

Finally, no software is perfect and FileCore is no exception. Under certain circumstances – little free space and many files being extended or shrunk – it can corrupt the disc map itself without raising an error. FileCore version 2.51 (as shipped with RISC OS 3.50) or later still suffers from this bug although it seems to show up less often.

The consequences

When one of the above situations arises, your disc will probably be corrupted although this corruption may not be immediately noticed. In fact the most common case of map corruption is rather subtle; a part of the disc is allocated to a file ID (in the map) but the corresponding file doesn't exist in any directory. Fortunately this will not prevent your disc from working because you can still read from and write to it, but a part of your disc is lost to 'phantom' data.

The complementary case is easier to detect; in fact a file present in a directory but not in the map will cause a system crash when you attempt to load or delete it. However, you can move it (using a Shift-Drag from the Filer windows) into an unused directory and eventually replace the original file with a backup copy.

Browsing through the directory tree you can come across another type of corruption: 'Broken directory'. This is the error reported by RISC OS when you try to open a corrupted directory; there is no easy way to remove it nor to recover its content using the standard RISC OS file commands.

The worst corruption manifests itself with an error when you first try to access the disc: 'Disc not understood - has it been formatted?'. This means that FileCore isn't able to load the map because of a corruption in the map itself (an incorrect checksum, usually); in this case you will not be able to access any part of your disc. A similar but less serious problem may affect the free space linked list of one or more map zones. In this case you can read your disc but you can't write to it.

To prevent these possible problems, FileCore keeps two copies of the map on the disc. Unfortunately this is a very weak scheme and usually if the first map is corrupted the second is also. If you are lucky enough to have just one copy of the map broken, the ***CheckMap** command could be useful to swap the two maps, hence fixing the corruption. ***CheckMap** is also able to check the integrity of the map. It scans the whole directory tree making sure that every file is correctly stored both in the map and in a directory. If everything is correct it reports 'Map good', otherwise it reports the rather cryptic 'Map inconsistent with directory tree' error but is absolutely unable to help you fix the problem.



Fixing the problem

On the monthly program disc you'll find *fsck*, a suite of programs useful to detect and fix any FileCore-related disc problem. It is composed of three main programs: *fsck*, *eliminate* and *hardfix*.

Fsck can be considered as a replacement for the ***CheckMap** command. It will scan the disc, reporting a list of broken files and will eventually fix the map. It should be used regularly to discover any 'hidden' map corruption. *Eliminate* can be used to remove a broken file that can't be removed using the standard 'Delete' command, for instance a broken directory. *Hardfix* is able to fix the errors that affect the bootblock or the map like a wrong checksum. It can also save the most important disc data – the bootblock, the map and the root directory – to a file so that eventually you will be able to restore them if any serious problem arises.

Using these programs you will be able to fix all the problems described above except physical errors without having to reformat your disc; they will do their best to recover any lost data and will repair the disc structures used by FileCore. Note that once a broken disc has been fixed there is no need to reformat it; a fixed disc isn't different from a disc that has always been healthy and so should be as trustworthy as a brand new formatted one!

A few words of advice

There isn't much you can do to avoid problems such as an unexpected power cut or a program going crazy and starting to corrupt FileCore's memory. However you can regularly save the disc data using *hardfix*, avoid using any untested PD programs that could have unpredictable behaviour, and keep regular backups of your important data. Remember that FileCore can behave incorrectly when the disc is nearly full, so always leave at least a few megabytes of free space. Finally, remember to check the disc map regularly using *fsck*, a corrupted map is like a disease: if you don't cure it promptly it could worsen. AU

Troubleshooting

In the list below, causes only refer to errors in the disc map and so on. The most common causes of not being able to write a file to a disc are of course that there isn't room on the disc or that the write-protect tab is not present.

Symptom	*Cause*	*Solution*
File unreadable and undeletable	File not present in the map	*Eliminate* the file and use *fsck* to recover lost space
Can't open disc: 'Disc not understood - has it been formatted'	Assuming disc *has* been formatted, one or more zones have a wrong checksum	Use *hardfix* then *fsck*
Can't save anything onto the disc	Free space linked list broken	Use *hardfix* and then *fsck*
Can't open a directory: 'Broken directory' error	The directory data is corrupted	*Eliminate* the directory and use *fsck* to recover lost space
Opening a directory causes a system crash	A broken application is stored inside the directory	Use *fsck*, *eliminate* the files that it lists, then run *fsck* again
Opening the disc causes the system to crash or reports strange errors	Probably a broken root directory or broken application	Use *hardfix*, *fsck* and eventually *eliminate*.
None, just some lost space...	There is space allocated to a file that doesn't exist	Use *fsck*

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An audience with Minerva's Theseus

FEATURE

I wrote that...

Merlyn Kline, head of software development at Minerva Software and technical director of Zynet, talks to David Matthewman



Merlyn has worked for Minerva since the end of 1986. Before this, he worked for a PC dealership, primarily selling Commodore Pets to local businesses. Eventually the thrill of driving 40,000 miles per year and writing a never-ending stream of invoicing programs began to pall. When he sold an accounting system to the company where Nova Fisher worked, she was so impressed that soon after she founded Minerva, she asked Merlyn to come and work for her. For the last few years he's been head of the programming department, taking control of most of the projects that have been run: 'pretty hair-tearing stuff.'

REGAN

Minerva Software in Exeter is one of the survivors of the Acorn market, having recently celebrated its tenth birthday. It dates back to the days of the BBC Micro and, unusually for a major software house, still sells programs written in BBC BASIC. Minerva's software manager, Merlyn Kline, regards this as proof of the excellence of the interpreted BASIC on the machine, as he considers that this would be pretty much impossible on any other platform.

'When we started, we could write and sell programs using BBC BASIC that ran a lot faster than interpreted programs on contemporary PCs,' grins Merlyn. 'Sophie Wilson's BBC BASIC is the most amazing interpreter. It uses some hideous kludges to work, but they *do* work, and the result it that it interprets code at an unbelievable speed. Furthermore, it has all the structures that you need. It's not really like BASIC at all, and it even has a built-in Assembler.

'You can do some very clever things with that, and if you want a real nightmare, just look at the way that *ChangeFSI* works. Sophie was also responsible for this, and therefore has taken the best possible advantage of the ideas that she had when building the Assembler into BBC BASIC. It's a bit mind-boggling, but it works very well indeed; *ChangeFSI* is clear proof of principle of the BASIC interpreter.'

Libraries in C

Since a decent C development environment has arrived on the Archimedes – along with what Merlyn considers to be one of the better C compilers – Minerva has used this to build up a large library of proprietary routines for functions ranging from managing button bars to sprite plotting. This has the dual advantage of allowing the programmers to concentrate on the difficult parts of code unique to the program that they are writing and of making Minerva's products have a consistent look and feel.

'Now everything is written in C with the occasional hand-coded assembly language for speed-crucial bits. In my experience it's quite hard to produce more than a few

lines of hand-coded assembly language that's going to be more efficient than what the C compiler would have output anyway.'

Acorn's *ToolBox* module which came with the last release of the C compiler is a mixed blessing for Merlyn. He'd like to use it, but (naturally) it's totally incompatible with Minerva's existing libraries, and there are some things like pane handling that Minerva's libraries actually does better.

Planning an application

'In a small company like Minerva there's a lot of brainstorming that goes on, but the largest input comes from the marketing people, who obviously are in much closer contact with the market than I am. Usually the only people that I'm in contact with in the market are those who phone for technical support. Inevitably, they're the ones who aren't as happy as the majority.

'I therefore tend to get a very pessimistic view, but on the other hand it does help to guide us when it comes to the finer details of program design like the user interface.'

'The program would in the first instance be driven by someone like Pat saying "There's a gap in the market for such-and-such a program". That gives us a very basic outline of what's needed. Most of our software is produced by one-man teams – either in-house or 'peripatetic' – who pretty much have complete control from that point on, although we get together from time to time just to check that the programs heading in the right direction. We try to get a small group of people involved in each project, and that would usually be a group of teachers.'

Outside collaborations

With *Map Importer* which generated drawings from OS data, Minerva worked closely with the Ordnance Survey. In fact, the program was to a large extent driven by them, though Minerva also worked with Acorn to produce a library of code which would be used by other applications to allow them to import maps directly.

PrimeArt was developed in close co-operation with the local Acorn Education Centre, because it was aimed for a very specific purpose for use in classrooms to fill a need that they had identified. That was very constructive, because they were intelligent about asking for what it is sensible to want in a program, as opposed to ridiculous. That was highly productive, and the result is that we've got a very popular product in *PrimeArt*.'

Minerva recently released version two of its 'family tree' program *Ancestry*. *Ancestry 2* is one of those precious programs, like *Sibelius* or CSH's *Robert Burns* CD-ROM which is so far ahead of what can be done on other platforms that people will actually buy an Acorn machine just to run it.



Merlyn is the technical director of Zynet Limited, which caused him very quickly to learn a lot of things that he never knew about networking, UNIX and TCP/IP. He says it's been fun

REGAN

'It is a very, very flash product, which is able to do some extremely clever things with genealogical databases, not least in the presentation of them. It's taken a huge development effort to get that right, because doing things like real-time family trees on the Desktop, and getting it all to work with *Impression*-style frames and fonts wasn't funny.'

Windoze problems

Another project that Merlyn is working on is a translation of the *Discover York* CD-ROM from Windows format. For this, he's using a small reader application to convert the Windows data 'on the fly', using the extra performance of the Archimedes. Not that the ARM is inherently faster than a 133MHz Pentium – it obviously isn't – but as a recent poster on Usenet observed: 'it is amazing how many processor cycles Windows is capable of wasting.'

'RISC OS is a big contributor to the performance of Acorn systems. There's no doubt that it is possible to write a fast operating system for the Intel architecture. You will always run into problems on I/O, because the I/O architecture's not as good as it could be, but you can run something like Solaris on an Intel machine and get pretty good performance out of it. Computer Concepts demonstrated with the speed of *Xara* that a lot of the reason that PCs are as slow as they are is that the programmers writing for them don't know what they're doing.'

Merlyn on the Internet

In the past couple of years, Minerva has moved into the area of providing Internet services, forming its sister company, Zynet, to do it. Originally Zynet offered services only in the South West, but it has recently expanded its service to offer POPs across the country.

'I always like to pretend that Zynet started just as an excuse for me to have a 64K link straight to my desk. The truth is that it was obviously necessary; there simply wasn't anyone else offering an Internet connection in the South West when we started.'

Merlyn is also involved in writing the Web browser for Acorn's *InterTalk* software, which allows people to use Internet services over an Acorn network; only one machine actually needs an Internet connection. This is especially important for schools, who often don't have the resources to run an internal TCP/IP network.

As fellow Web authors, Merlyn and I agree that there's one feature of the Archimedes that makes it ideal for Web browsing – the easy way of saving pages for printing or storing in a WYSIWYG format.

'If you're not on a Acorn, there's no easy way to save a Web page; what format would you save it in? What people often want to do is to save the Web page *as they see it* for later use, and especially on the PC platform, there just isn't a standard format to use. On the Acorn it's easy: save as *Draw* file. This manages to do the job without any complicated buffering, or having links to all the GIFs, or fudging long file names.

'Again, the Acorn has the advantage because of good initial design. If Acorn had just said at the start: "I say unto ye that vector graphics shall be stored like this" no one would have taken any notice, but by virtue of the fact that everybody knew that there would be a free editor for this format, everyone decided from the start that they would support the *Draw* file.'

'From my point of view as a programmer, Windows just doesn't feel right, it's a bodge, while RISC OS has been put together by people who've got a genuine feel for what's needed and how to do it best.

'What I do best – and what I *like* to do best – is to write code. I do it for the Acorn platform because its the platform that I would most like to do it for, probably because it's the furthest removed from Windows.' AU

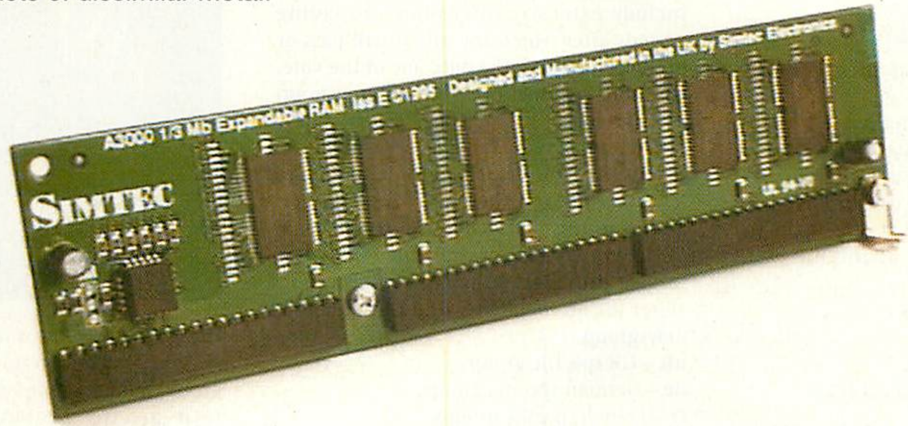
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FEATURE

Here is the news

In the second part of his article introducing the Internet to beginners, Mark Smith introduces Usenet news

Unlike e-mail which is sent to either one or a selected number of people, news articles can be read by anyone who has an interest in the subject about which you've posted. Articles are placed in one or more groups, each of which covers a specific subject area. Group names are organised in a hierarchical structure with many parts separated by full stops.

News group hierarchies

The main top level hierarchies are as follows:

comp – anything computer related
humanities – a new hierarchy dealing with humanities-related subjects
misc – anything that doesn't fit into another hierarchy
news – administration of the big eight newsgroups themselves
rec – recreational subjects
sci – science related subjects
soc – social subjects
talk – talk on many subjects including philosophy, politics and religion

The above are known as the 'big eight' groups. Articles in these groups will normally propogate all over the world and a strict sequence of events must be followed if you want to create a new group – these include extensive discussion and voting periods after which the group will pass or not depending on the outcome of the vote. For more information, read the newsgroup news.groups.

alt – alternative hierarchy

The rules for creating an alt group are less rigorous and there are a few 'dodgy' groups in this hierarchy. As a result, some of the groups are not available from some service providers. For more information about the alt hierarchy, read the alt.config newsgroup.

uk – UK specific groups
de – German specific groups
fr – French specific groups

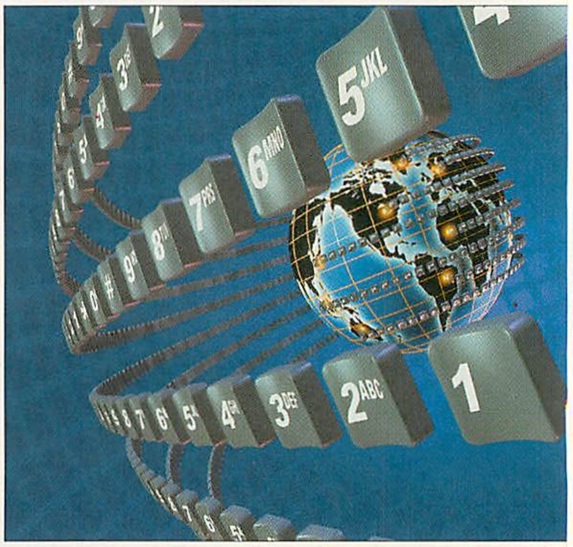
The above are examples of groups specific to one country. Some of the groups may be available in other countries, but the language used in these groups is likely to be native to the country concerned (as opposed to the international groups in which most of the postings are usually in English).

There are also other hierarchies, including ones specific to certain Internet Service Providers. For example, Demon Internet has a number of groups, which are available to many non-Demon customers.

Replying

When reading news articles, you may decide you wish to add something to the discussion. You can *followup* to postings in a newsgroup, or you can *reply* to the poster by private e-mail. You should do the former if you think your followup will be of interest to many people, the latter if it will only be of interest to the poster.

Discussion on a particular subject is called a thread. Threads are started by someone posting a new article and are continued by others posting followups to the original article or to the followups.



Always take care to post to the correct group. Some people only subscribe to certain groups because they are only interested in certain topics so it is not very friendly to force postings on them about subjects that they have specifically chosen not to read. In particular, do not simply post everything to a miscellaneous group such as comp.sys.acorn.misc, only do that if there is no other suitable group – saying that you don't subscribe to the most relevant group is not a valid excuse.

Useful newsgroups

The following newsgroups are often useful to Acorn users:

comp.sys.acorn.advocacy
why Acorns are the best
comp.sys.acorn.announce
announcements relating to Acorn computers
comp.sys.acorn.apps
software for Acorn computers
comp.sys.acorn.games
games for Acorn computers
comp.sys.acorn.hardware
hardware for Acorn computers
comp.sys.acorn.misc
anything about Acorn that doesn't fit elsewhere
comp.sys.acorn.networking
networking and comms for Acorn computers
comp.sys.acorn.programmer
programming Acorn computers
demon.announce
required reading for all subscribers
demon.ip.support.archimedes
using Acorn machines to access Demon

Smilies

In a text-based discussion environment it is often difficult to express feelings and how serious you are. For this reason, 'smilies' are sometimes used.

Examples include (look at them sideways on):

:-)	Happy
8-)	Wide eyed and happy
:-(	Sad
:-p	Sticking your tongue out
;-)	Winking
%*)	Drunk
:-#	Bearded

Good behaviour

You should also remember that your articles may be read by many thousands of people all over the world and that the total cost of sending it to everyone could be considerable – often hundreds of pounds depending on the group you post to. To make your and everyone else's use of Usenet a pleasant experience there are a few guidelines under the general title of 'Netiquette':

- Keep your articles short and to the point.
- When following up to another article, be selective about which text from that article you quote. Delete anything that isn't directly relevant.
- Never quote someone else's signature.
- Never quote someone else's personal e-mail to you without their permission.
- Try to avoid 'Me too' posts.
- Format your posts to less than 80 characters wide – 76 is reasonable to ensure that your text is readable even when it has been quoted.
- Make sure you use meaningful subject titles when starting a new thread so that readers can see at a glance what you've posted about and so decide whether they wish to read it. If a thread moves on to a different subject then change the subject title when posting followups so that it accurately reflects the content of your posting.
- Try to keep the topic generally within the subject area of the group – threads of discussion often wander. If necessary move a thread from one group to another. The best way to do this is cross-post your article to both the original and new groups and set followups to be posted to the new group(s) only, although some newsreaders may not allow you to set the group to which followups to your message should be posted.
- Don't libel anyone!
- Although articles may be crossposted to more than group, you should keep this to a minimum. Spamming, the act of crossposting an article (often an advert) to as many groups as you can think of, may lead to you losing your Internet account.
- Test posts should go to a test group, for instance alt.test.

It is important to realise that these rules exist for a very good reason, namely that the combined effect of many people doing their own thing results in groups being filled with junk which won't be of interest to most readers and hence causes a great many people to waste both time and money and ultimately to unsubscribe to groups which are particularly bad.

With consideration from contributors, Usenet newsgroups are highly valuable forums for discussion on particular subjects. Even the comp.sys.acorn groups will have many thousands of readers (and that is growing all the time) – don't be fooled by the number of people who regularly post to group, many more readers will post very occasionally or not at all.

Abbreviations

To save time when posting articles (and writing e-mail), there are a number of commonly used abbreviations, including:

IMHO – In My Humble Opinion ('humble' being a relative term)

AFAIK – As Far As I Know

IIRC – If I Remember Correctly

RTFM – Read The Friendly Manual (well, maybe not 'friendly')

ROTFL – Rolling On The Floor, Laughing

Acceptable use

Your Service Provider should be able to provide you with its AUP (Acceptable Use Policy) on request, or at least tell you where you can get it from. The Demon AUP, for example, is available from: ftp://ftp.demon.co.uk/pub/demon/doc/news/AUP.txt

Before posting to a news group, you should first spend some time 'lurking', that is reading the group without posting. It is also a good idea to obtain the group's Frequently Asked Questions (FAQ) document so that you don't start asking the same questions that have already been answered on multiple occasions. This document will often be regularly posted to the group concerned, or monthly to news.answers. Alternatively, you may be able to get the FAQ you want from: ftp://rtfm.mit.edu/pub/usenet/<group name>.

There are a number of groups which cater specifically for new users of Usenet, including news.newusers.questions and demon.ip.support.newusers.

Moderated groups

There is a group in the comp.sys.acorn hierarchy – comp.sys.acorn.announce (announcements related to Acorn computers) – which is different from the rest in that it is moderated by Alan Glover who many of you will remember from his days at Acorn Customer Services when he wrote the Hotline column in *Acorn User*. It is his job as moderator to make sure that only genuine announcements are posted to this group.

Factual product announcements may be posted here, as opposed to adverts which are definitely not welcomed on Usenet. Anything posted to this group will be sent to Alan for approval. Many other moderated usenet newsgroups also exist, including demon.announce mentioned above. AU

● *That's all for this two part mini series. If you are thinking about an Internet account or have just signed up with an ISP then this has hopefully given you some insight into the services available and the pitfalls to avoid.*

Jargon box

Here are a few of the technical terms you may come across and what they mean:

ISP – Internet Service Provider; these include PIPEX, Demon, Zynet and many more.

LINX – The London InterNet eXchange. UK based Primary Internet Providers who have their own transatlantic connections peer (exchange Internet data) with other providers here. These include Demon, Xara, Unipalm PIPEX and JANET (The Joint Academic NETwork which provides connectivity for UK Higher Education sites)

Reseller – There are essentially two types of service providers; those who have their own connections to America, the European mainland and the LINX and those who take a connection from such a provider and resell that connectivity to end users. In the UK, many resellers use Unipalm PIPEX for their Internet connectivity – these include Argo and the BBC Networking Club.

IP – Internet Protocol, the underlying protocol used for most Internet communications.

TCP – Transmission Control Protocol, used on top of IP (hence the term TCP/IP) to provide reliable connections over a long distance.

SLIP – Serial Line Internet Protocol, used to provide an Internet connection between two computers' serial ports. Using modems, this connection may be over a telephone link and it is often used to connect to dial-up ISPs.

PPP – Point to Point Protocol, a more flexible alternative to SLIP.

PoP – Point of Presence, the point that you call to connect to the Internet with a modem. It is obviously preferable for this to be a local phone call.

Modem – MOdulator/DEmodulator, used to connect two computers over a telephone line.

ISDN – Integrated Services Digital Network, an alternative to using a dial-up connection with the benefits of a much faster initial connection and higher transfer speeds. It requires an ISDN line to be installed and a piece of hardware known as a Terminal Adapter.

Leased line – A leased line to an ISP gives you a permanent Internet connection, for a price.

GAME SHOW

PARADISE

Welcome to another exciting instalment of the Game Show – following on from the forthcoming products mentioned in the last issue, I've got some news relating to a game under development by a team named *Paradise*. At the time of writing, I've not received any more information on Eclipse's release *Global Effect* or TBA's titles *Merp* or *Mirror Image* but as soon as I do, it'll be heading in your direction.



Regular readers of the magazine will have seen the demonstration version of the game that appeared a few months ago, but for those who haven't, *Global Effect* is cast in the *Sim City* mould, with a strong ecological twist. As you build up your towns and cities, the effect you have on the environment will be apparent – the aim of the game is to live in harmony with your surroundings.

TBA's titles are a little more light-hearted – *Merp* is a madcap arcade game in which you bounce at great speed round the screen, collecting flags and attempting to get in your opponent's way as much as possible. I've spent some time playing an early version of the game, and it's great fun – I'm looking forward to playing with the final product.

Mirror Image stems from a shareware game that I've seen on the PC once or twice, although the TBA team have spiced it up with their recently enhanced TAG engine. Your objective is to position mirrors and other assorted objects within a maze so that a laser beam entering at one point bounces round the obstacles and hits what at first appears to be an inaccessible target. The shareware versions are implemented using a two dimensional plan that views the action from above. However, *Mirror Image* takes a more radical approach and allows you to choose from a selection of three dimensional viewing angles. What effect this will have on the gameplay remains to be seen, but I'll enjoy finding out.

Dream Team

The hot news this month is the announcement that the Dream Team, the group behind Oregan's arcade racer *Burn Out*, have formed a new organisation named *Paradise*. They're promising to bring even more top-class games to the Acorn, and their first release since the announcement will be an action-packed scroller with puzzle solving elements as well as shoot-em-up excitement.

The story takes place in the depths of a nuclear reactor deep in a moon circling a nearby planet. The radioactive moons seemed to provide the ideal power source until one began to head out of control and is now getting dangerously close to suffering a meltdown.

Should the base explode, there's a high chance that it will take most of the planet's surface away with it. To compound the problem, the reactor is highly inaccessible, and only a single craft can make it through to tackle the gargantuan blaze across the levels of the complex and cool the core before it goes critical.

Does any of this sound familiar yet? Of course, the small single-seater craft just happens to be piloted by none other than you, the player, so the task of fighting the nuclear fires falls at your feet. Although I've not seen the game in action as yet, the levels remind me a little of *Paradroid*, a game that I'm still fond of, and the graphics are good. If all goes well, this should be a game to watch out for – I'll get back to you when I've found out more. If you want to get in touch with the Paradise team, you can E-mail them at info@paradise.compulink.co.uk or coax your Web browser towards http://www.compulink.co.uk/~paradise1/.

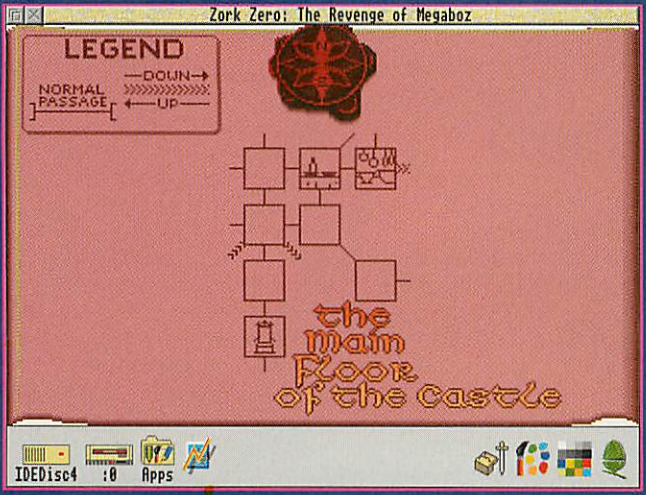
Hyperactive Fiction

I've just been lucky enough to acquire the *Lost Treasures of Infocom* compilation packs, and now that I've been able to put the audio and graphics capabilities of Kevin Bracey's *Zip2000* to the test, I thought I'd pass my findings on to complete the picture. Although most Infocom-format games are entirely text-based, one or two adventures were written with extra features available to them.

Zork Zero, included with the first *Lost Treasures* pack, has an associated graphics library to go with it and if you download the Acorn compatible version from the interactive fiction archive at *ftp.gmd.de*, you'll be able to play the game with a rather neat graphical interface. As well as the attractive border round the screen, there's a compass in the middle of the status bar which allows you to navigate by using the mouse. Key events during the game are punctuated with full-size pictures, and there's even an automatic mapping facility that I've found particularly useful.

The Lurking Horror, on the other hand, has no graphics whatsoever. On reflection, this is probably rather fortuitous as the sounds that whine and growl out of my computer whilst I'm playing have made me nervous enough already. If it wasn't





It's a neat interface



Enter the world of Cthulhu

enough listening to creaking metal doors and the hordes of squeaking rats, experiencing the dismemberment of the Maintenance Man from Hell really does set your teeth on edge. If you've got a nearby sofa, it might be worth installing it near your computer so you can dive behind it at short notice.

Zip2000 copes with both graphics and sound effortlessly and Kevin deserves congratulations for an excellent product. Installing the extra files necessary is fairly simple – once you've downloaded the graphics and Stefan Jokisch's sounds add-on from the IF archive, you'll have to drop them into the appropriate places within Zip2000's directory. In the case of the audio upgrade, you'll have to alter your original adventure file but there are two utilities supplied with the interpreter that do this for you. Full instructions are provided, and it's well worth going to the trouble to upgrade.

If you're itching to create your own interactive fiction, you might be interested to hear that next month, I'll be announcing *Acorn User*'s first IF competition – organised with the assistance of Graham Nelson, the author of the popular adventures *Jigsaw* and *Curses*. Although the rules are still being finalised, we'll be looking for reasonably short text-only adventure games that show originality and are fun to play. If all goes well, the best entries will be included on future cover discs, so here's your chance to achieve world-wide notoriety.

Horror in 3D for you

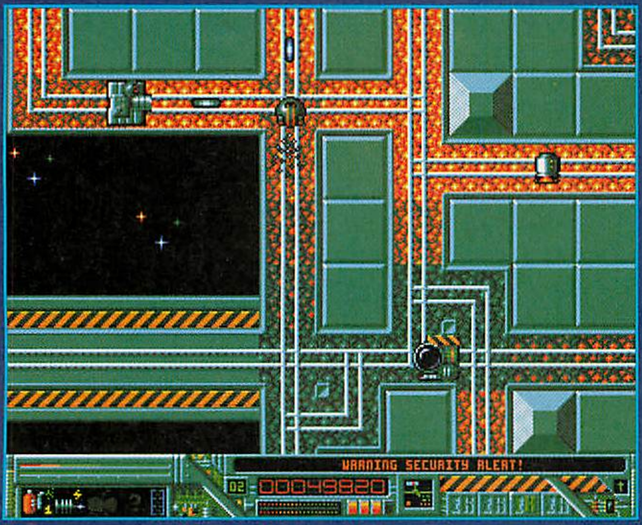


Keep an eye out for next month's column for the full details, and have a look at the last issue for information on the availability of some relevant packages. If you want to get your hands on Graham's *Inform* compiler and you're without Net access, you can send me a formatted disc with a stamped addressed envelope and I'll see what I can squeeze on. Finally, I'm hoping to increase the coverage of adventure games in the Game Show, so if you have any suggestions as to what you'd like to see or if you've got problems with a particular title, drop me a line.

All Alone

Krisalis departed the Acorn market after releasing *Alone in the Dark* – mind you, they've undoubtedly left on a high note. The game follows the unsettling occurrences in the mansion named Decerto and you start the game trying to uncover the mysteries surrounding the suicide of Jeremy Hartwood, the previous master of the house. As you wade in to the adventure, it becomes clear that you're dealing with a force of great evil and your mission turns from investigation to one of escape as you're attacked by a combination of zombies, ghosts and monstrous angular worms.

With that sort of opposition, you might want a little help, and if so you've come to the right place. The key to success in *Alone in the Dark* is to realise that brute force doesn't always win through and there are some sneaky methods of avoiding conflicts. With that in mind, here are a few hints to help you on your way through the game. Fighting the denizens of Decerto without suitable weaponry can be a quick route to an early grave, so it's best to avoid tackling the two monsters that attack you in the attic.



Getting your lasers crossed in *Inferno*

In order to do this, you need to undertake a slight rearrangement of the furniture, so push the wardrobe across the window to spoil the sharp-toothed creature's entrance and manoeuvre the chest so it's over the trapdoor. Once you've done that, you can stand back and admire your handiwork – there's something satisfying about watching the creatures trying vainly to get in.

A little down the corridor, there are two zombies waiting to attack you if you make the wrong moves, and the key to avoiding the first lies in keeping away from the carpet in the middle of the bedroom on the left of the corridor. If you should step onto it, the door will slam shut and when you next open it, there'll be an unwelcome visitor on your doorstep.

Once you've finished there, walk into the room across the corridor and make sure you shut the door as soon as you're inside. There's a zombie wearing a Hawaiian shirt that's following you, and if you're able to trap him in the corridor it's possible to run through the next bedroom and finish him off with a couple of well-aimed shots before he notices.

Once you've made it down the staircase – try playing with the mirrors if you can't get past the gargoyles – you'll be faced with a suit of armour that has a nasty habit of getting a bit too lively. He poses a weighty problem, and as soon as you realise that, you'll know how to deal with him. If you've attempted to fight the pirate with the old sabre, I'd advise you to backtrack a little and keep that object to one side; you might need it in one piece later on.

Now, a message for any intrepid adventurers who keep falling prey to the purple monster in the bathroom – I've not been able to kill it, and I was making extensive use of my cheat module at the time. Simply run in, grab the jug and run out again – there's no way it can follow you.

Finally, for anyone stuck in the smoking room, it's probably not a good idea to hang about. The smoke has a detrimental effect on your health, and the sooner you can clear the air, the better. It's a pity there aren't any fire extinguishers in the building, but I'm sure you'll find other ways of doing the job. Once you've fought your way through the fog, it should be possible to get into Jeremy's study – that's if you can make it through the possessed picture gallery to find the secret compartment in his bedroom. I hope that's been of some help; if you have any more questions, you know where to send them.



Sorcery from Intotek – it's magic

Games on the Web

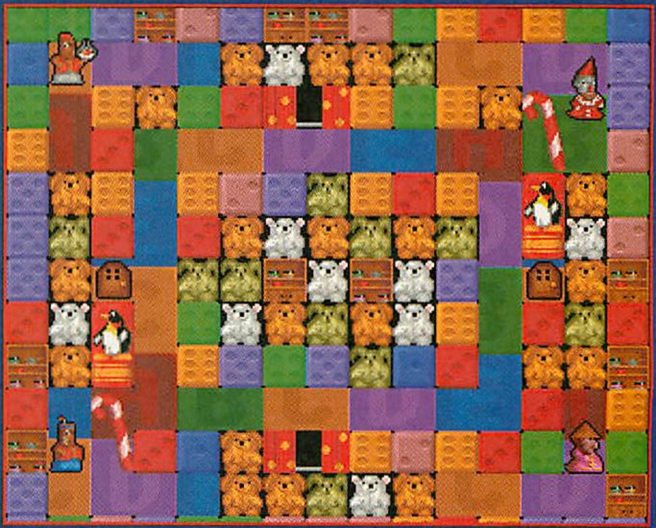
If you're connected to the Internet and you haven't paid Gareth Moore's games page a visit for a while, now's the time to wander that way once more. Gareth has just expanded the contents of the site to include databases covering almost all of the games available for the Acorn – one that deals with the commercial releases and another for the games available in the public domain.

Contact details as well as comments are included, which makes this a particularly valuable resource. If you own a Risc PC and use a PC card, you might be interested in the compatibility chart that's being posted there. Although fairly small at present, the list is growing in size and is a good way of checking that the special offer in the shop down the road will actually run on the machine without sending the PC card into a frenzy. Gareth's site is accessible at http://www.csv.warwick.ac.uk/~csuod/.

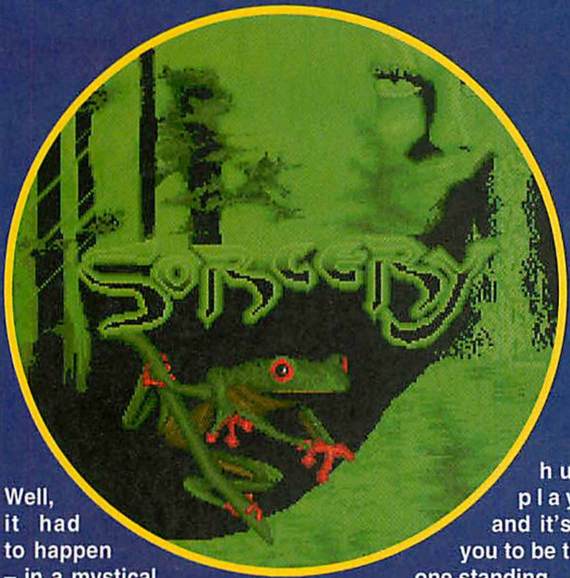
If you're looking for a helping hand with a troublesome game, Doggysoft's *Cheats Prosper* page at http://www.doggysoft.co.uk/cheat.html is packed with everything you need to turn the tables on most games on the market. The presentation is impressive and with a full range of Desktop Hacker modules available for download as well as a selection of games utilities and a list of links to other useful sites, it's well worth a visit.

And Finally

That's brought us to the end of another session – as always, if you have any comments, suggestions or questions, please contact the Game Show at Acorn User, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP or by e-mail at azimuth@argonet.co.uk. Before I go, I'd like to dedicate this column to the silicon gremlin that chomped its way through the article just before I'd finished it – that'll teach me not to keep a backup. See you next time.



... it's also very cuddly



Battle against the rogue mages in Intertek's newest release

Well, it had to happen – in a mystical land far away, the resident sorcerers have finally lost their collective rags and started resolving their differences in the only way wizards know how. Armed with a range of potent spells, they're roaming the countryside and anything that gets in their way is likely to end up an entirely different shape.

If you've not seen this style of game before, the idea is to run around a maze of blocks, leaving a trail of bombs at strategic points behind you. After a few seconds they explode, sending out streams of fire and destroying any fragile objects in their path. You're faced with a number of adversaries, either computer-controlled or other human players, and it's up to you to be the last one standing.

There are two ways of playing *Sorcery*, depending on how cooperative you're feeling. The *Quest* mode allows you to control up to two characters simultaneously with a friend and work as a team to clear the levels of the villainous magicians. There are 12 areas to work through and after you've completed all of the levels in each one you must face the master of that domain.

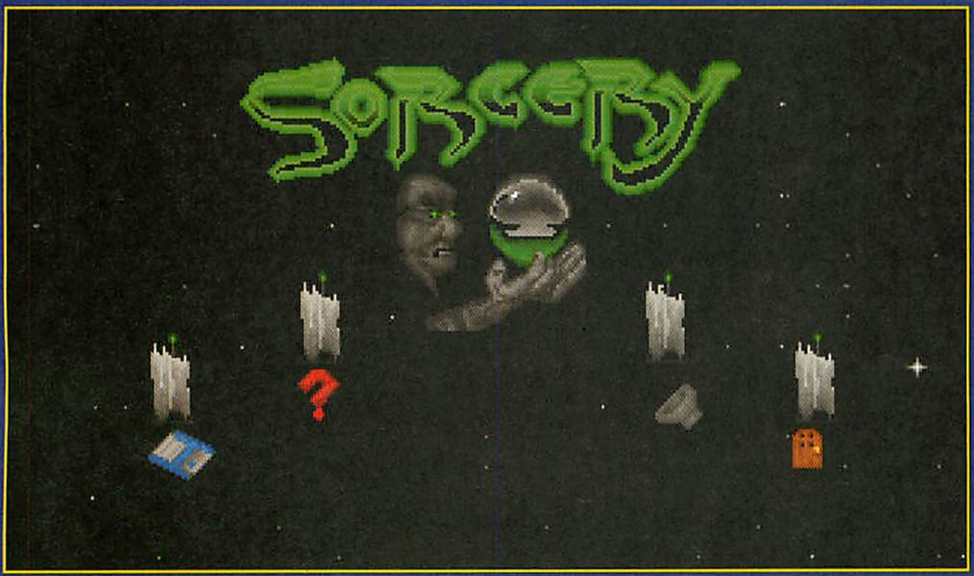
The *Battle* mode is a little more aggressive, and it's possible to play against up to three other human competitors if you've got an appropriate joystick interface – otherwise, you'll have to huddle round the keyboard or challenge the computer to a duel. The game allows you to configure the number of wins a mage must notch up before being announced as the overall victor, as well as the number of minutes each round of the battle will last. After that time has elapsed, the fight is brought to a swift conclusion as the walls of the arena spiral inward.

As you might expect, the levels are packed with hidden bonuses and special potions which boost your abilities. As well as being able to collect more spells and increase the range of their fire, other icons allow you to kick your magical bombs around as well as lob them from one side of the arena to the other. If you're unlucky enough to get caught in the path of an exploding spell, you'll end up in a pretty sorry state – I've been mummified, gift-wrapped and turned into a goldfish already. If you'd prefer to continue playing the game, it's possible to collect tokens which grant you an extra life, so if you see any of these objects lying around, grab them before anyone else does.

The graphics are quite colourful and maybe even a little garish in places, but the cartoon styling suits the gameplay nicely. The levels are varied in design, from Egyptian catacombs to the Wild West, and they're more of an 'open plan' design than some of the *Bomberman*-style games on the market. They also include instant death obstacles – lava pits or irate cacti pop up frequently – and walking into these will cost you one of those precious lives.

While I'm on that subject, I'd better mention one of the unusual features of the game. For some reason unbeknownst to me, if you walk into an obstacle such as a wall, the movement routines will change your direction for you, so you're liable to scoot off sideways without so much as a by-your-leave. It takes some time to adapt to this, and it's rather infuriating when you want to place a bomb by a wall and you find yourself walking blithely into a lava pit cunningly placed just to the south.

All in all, I've enjoyed playing *Sorcery* – there are some nice touches and I approve of the varied multiplayer modes. The intelligence of the computer players seems a little limited but there's enough of them running round to provide a fair fight. It's got some rough edges here and there and the movement algorithm strikes me as being somewhat bizarre, but it's a good implementation of a classic idea. I'm looking forward to any other games *Intertek* might have up their sleeves. You can contact *Intertek* at *7A Lovat Close, Neasden, London, NW2 7RU*, and the price of the game is £24.99 inclusive of postage and packing.



Letters



Of bubblejets and refills

While I can understand the need to make economies with respect to printing costs and take on board Geoff Preston's remarks about taking care not to introduce foreign particles and to obtain ink from a reputable source, I consider that our recent experiences at HMTC (Hampshire Microtechnology Centre) are worth recounting.

In our repair workshop only yesterday I counted 12 BJC-600 printers most suffering from what is becoming an all-too-familiar problem - ink contamination of the print head contacts.

It would appear that pressure builds up in one of the colour ink tanks (black tanks do not seem so susceptible), due to a blockage, which clears with force enough to eject ink onto the head contacts. The ink is corrosive and erodes the electrical contacts and damages the attached ribbon cable. The typical repair bill for cleaning, print head and cable change and subsequent testing is in the order of £150 — not trivial as I think you will agree.

Inspection of the ink cartridges of one of these printers showed clearly that refilling had been carried out. Indeed the yellow cartridge, because the ink is more transparent, could be seen to have particles suspended in the ink.

Canon have introduced cartridges of revised design with a vertical slot shaped orifice rather than the circular one of the earlier model. These seems less prone to blow-backs.

Talking to a very pleasant Cannon rep (Joanna Turner) on the XMA stand at the recent BETT exhibition revealed that there is a grey import market of clone ink cartridges which could prove a source of trouble.

Recently, since end of August 95) attempts at setting up brand new BJC-600e models have more often than not proved initially troublesome, with repeated head cleaning (up to seven or eight attempts) being required before an acceptable nozzle check pattern is obtained. Often the result being a couple of beeps and an error light condition that cannot be resolved.

As suppliers this is proving expensive in our time on site, costs which we cannot pass on to the customers – the schools.

This situation is particularly embarrassing for me as, being so impressed with the design and performance of the many BJC-600s I had set up in schools (I also have set up a considerable number of HP DeskJets and Epson Stylus printers) I took the plunge and bought one for home use, this in the event was one of the first of the 600e models and from which I have had no trouble (touches head and minds the splinters). When asked by schools which printer to recommend I showed no hesitation in mentioning the Canon.

In the light of recent events I now enter some schools in disguise carrying a cloth to wipe the egg off of my face.

Many of the printers coming in for such repairs, have only produced about 400 to 500 print outs, my printer has done around 2000 and I never refill. The message is clear to me, in the hands of the less-than-careful refilling is a potentially costly process. How does one know that ones ink supplier is dubious before it is too late? One would have to carry out many cartridge changes before the price differential approaches the repair bill mentioned above.

Lionel Smith
lionels@argonet.co.uk

More printer caveats

After reading very positive articles in magazines such as yours, about a year and a half ago, we bought a Canon BJC600 colour printer. We were quite happy for several months until it began to develop faults, and our dealer recommended that we replace the print-head.

We had to wait several weeks for the replacement and after it had been fitted the printer only managed another 20 sheets before the trouble started again.

We returned it again and discovered from the dealer that at least two other printers of this type had similar faults. All three were sent back to Canon for repair — but they refused to even look at them until the dealer sent them £40 deposit per printer. Canon didn't even fax the dealer, just sent a snail-mail letter, the dealer sent the money.

This happened in late September 1995 and since then we've heard nothing. One of the other printers was returned but with a bill almost big enough to buy a new one. We have sent letters to Canon but to no avail.

The irony of our situation is that if we had bought a Hewlett-Packard instead of a Canon it would still have been under guarantee as HP offer a three year warranty as standard. It's also clear to us that the BJC600 had some design flaw, why else would three printers suffer the same fault after a similar time? Add in the time we've been waiting *another* printer of the same make and model has gone back to the dealer.

Perhaps you could consider articles which compare hardware reliability alongside features and maybe you could compare the after-sales service performance of suppliers. perhaps companies such as Canon could then be forced to improve their standards.

M. & S. I. Garrett,
West Yorkshire

Occasionally an individual machine may suffer from all its components being at the bottom end of the tolerance level (the *lemon* effect) but it would appear there's something amiss here.

The kind of reliability and after-sales survey you'd like to see would be along the lines of the car survey done by BBC2's *Top Gear* programme. Unfortunately we probably don't have the resources to do it ourselves but it would be an excellent idea — we'll look into it as an idea for all IDG Media magazines jointly.

Downside of ink-jets

I bought a Canon BJC600 printer in December 1993 and when the black and three colour Canon cartridges were empty I started refilling them with high-quality American inks.

Over the next 18 months I had used five black refills and three of each of the colours when I started getting horizontal streaking across lines of print in letters and across colours - eventually magenta nozzle in the head became blocked.

Canon's first question was 'Have you been using refill inks?' before replacing the printhead, which costs £108.

I ran a couple of test prints with the new head and the old inks before changing to Canon ink cartridges and was amazed at the improvement in print and colour quality with Canon inks compared with the refills.

The supplier of the refill inks kindly refunded their cost and I now but from them only the original ink cartridges, despite costing 2.4 times more than refills, since for me refills have proved a false economy.

M C Muir, Nottingham.

StrongHelp to the rescue

Your answer to the question about printing pages of the PRMs in Acorn User (letter from Andrew Halliday, Adelaide) missed making the point that information from the PRMs is available for nothing via StrongHlp. This FreeWare application by Guttorm Vik normally comes with help files covering most of the SWI calls and presents it in an easily accessible way.

StrongHlp has featured on Acorn User cover disks, most recently October 1995 (C Help). Unfortunately this version did not include the SWI help file for space reasons but it was stated that the files may be included on a future disk. In the meantime the complete package is widely available from PD libraries.

It might also have been helpful to point out that there are various PD packages which aim to make Wimp program-

ming easier and which could largely remove the need for the PRMs. Modesty forbids me to mention the name of my own version at this point.

Paul Hobbs

Beginning programming

In the January 1996 issue of *Acorn User* it was suggested that the Programmer's Reference Manual could be issued in monthly instalments. Although this is impractical I am, nevertheless, concerned by the lack of material of interest to program writers.

The Absolute Beginners series last appeared in early December and there's been nothing in the last two issues. I would be happier if you had some programming material in every issue on two levels, beginner and advanced.

There must be many ex-users of the BBC B whom like me, have bought a Acorn 32-bit machine and need help. In pre-RISC days you published many such articles but now they need updating.

For example I need help in using the RISC OS printer drivers to do what Acorn calls *fancy* text printing. I can get plain draft printing but no underlining, no italics, nothing. Could we have an article on this please? Something describes exactly what's needed?

As for other topics, boot files, obey files, SYS commands and SWIs are still mysteries to be tackled. So is programming in ARM code — the original Dabs Press book is now out of print.

On a practical level is it possible to save wear and tear on my hard disc with some software command that will turn it off? I have an A3010 with an 80Mb hard drive.

Dr. J. R. Barker, Chester

There is a problem combining the interests of a mature readership with those of newer users. Naturally we'll try to cater for all.

Some IDE hard discs do have a spindown facility most others do not. Spindown exists to save power rather than protect the hard disc from wear and tear — it's not something you really need to worry about.

Use of Acorn Computers

I see from the December issue of *Acorn User* that you are looking for unusual or extraordinary uses of Acorn machines. My use is not extraordinary, but it may be mildly interesting.

I have an A5000, on which I run *EasiWriter* and *Sibelius 7*. I work from home as a solicitor with a small specialist niche in town and country planning law with some commercial conveyancing. I use *EasiWriter* for all my correspondence and documents, including lengthy leases and so on. I can't believe that I am the only solicitor in the country using an Acorn, but given that there is no specialist legal software available for the Acorn, there probably are very few of us.

I bought the Acorn because of my other work, as a composer. I needed a musical notation programme, and decided on *Sibelius 7* because of its speed, ease of use and lack of restrictions on file size. It has saved me many hours work, and fully deserves the praise heaped upon it.

I also run *Pipedream 4*, for invoices in particular, and Datapower, on which I am building up a database of court decisions on points of planning law.

Michael Aves, Chelmsford

Give us what we want

For many years I subscribed to *Micro User* and then *Acorn Computing* which gave me, and I am sure many others, numerous hints and tips plus thousands of column centimetres of very interesting editorial - not to mention the letters from readers, 'problems solved' pages, the essential articles on DTP, CAD, Databases to name but a few. Also the cover discs had some useful and interesting PD and Shareware items, does no one write these any more?

I am sure that if you referred back to some of the past offerings on disc in both the *Acorn User* and *Acorn Computing* and re-issued them, I and other readers would be pleased to see some we missed and some we did not have the facility to use at the time. I am fed up with the unusable demos, and the useless games. What I would like to see are useful programs, for example the Icon Bar clock which you re-issued recently, !Encrypt and !Backup 3, which were on the *Acorn Computing* discs in the past.

I cannot be the only reader still using a A3000, with 3.1 OS and ARM 3 and only 4Mb of RAM, but when I read your magazine I begin to wonder, as a lot of the editorial and disc items are only about or for the Acorn PC or A7000. We are the original supporters of your periodical and Acorn themselves.

Allan J. Williams, Exeter

As far as possible we strive to cater for everyone but as everyone is different it's not an easy balancing act. It's certainly true that not everyone likes games, but magazine sales demonstrate that games sell magazines — and we do have to do that too.

There have been many useful utilities on the cover discs over the years and we'll certainly continue to provide them. As more and more people buy Risc PCs and A7000s we have to cater for them as well.

Enlightenment please

I am the proud owner of a RISC OS 3, on which is loaded *Impression Style*, and *Sibelius 7* which helps me to earn a living. Not entirely uneducated, and having previously used word processors, I decided to buy *Acorn User* in the hope of enlightenment.

What I found in it was lots of baffling initials, nowhere explained, which completely prevent people like me from learning anything useful at all. For example, taking a sample from just one issue, and leaving aside what seem to be obvious specific manufacturer's codes, we are left with:

JPEG, TIFF, SCSI, HCCS, HP, ARM, C++, ANT, XGA, VRAM, RGB, BBS, POP, BETT, SYQUEST, IDE, AUN, FTP, GIF, WWW, SIMM, DEBI, DOS, KS1, KS2, CDT, OLE, CSV, FDD, HDD, GUI, TAOS, AOF, ASCII, VTI, MEMC, FPA, FIFO, SVGA, VGA, FS, TCP/IP, SLIP, PP, ANSI, WIMP, DSP, OCR, OPL, RF, BNC, SCART,

not to mention lots of intriguing things like bitmaps, buffers, dongles and so on.

So it was with great relief that I turned to Absolute Beginners, only to find that it told me what a mouse was, for heaven's sake! Incidentally, there was with this article an illustration of what my desktop ought to look like: apart from a thing with CD on it and two very probable representations of CDs, there are also SCSI6, SCSI5 and SCSI4. What are they, and did my dealer short-change me?

It's perfectly obvious that all the millions of your other readers understand the above initials: I'm not complaining, but I just don't have even the vaguest idea what any of them mean, and I'd like to know how I get from here to there. Do you happen to have an answer?

Geoffrey Emerson, Scarborough

Yes. Starting next month the cover disc will include a glossary of common computing terms. It will be PD so anyone will be able to copy and use it.

If only I had a CD-ROM drive

There must be other Acorn users like myself who have not yet stretched their finances to cover the purchase of a CD-ROM drive for their system, but have looked longingly at your magazine's cover CD-ROMs, wishing they could try them. Knowing someone with a suitably equipped PC, I thought to myself, 'I wonder what my friend's PC would make of these Acorn CD-ROMs'.

The result delighted me and makes me grateful for the existence of real standards, presumably, in this case, the appropriate ISO CD-ROM one. I found I could copy files across to a DOS floppy and try them out on my Acorn. So I've managed to get a taste of what is on them prior to actually getting my own CD-ROM drive. I'm surprised that this idea has not appeared in any of the Acorn magazines.

W. Swanston, Falkirk

A3000 upgrades

Memory	
1-4Mb	£99
1-2Mb	£39
(See also the "2nd user" section)	
1-2Mb (upgradable to 4Mb)	£48
2-4Mb upgrade pack	£72
4-8Mb	£199

The above upgrades are all constructed on four-layer boards, as recommended by Acorn. Gold plated connectors are used for reliable contact with the A3000 main board. There are no clips or wires, and no soldering is required (except 8Mb upgrade). Some older types of 2Mb board cannot be upgraded to 4Mb, but we offer a trade-in allowance. Please phone for details.

Hard drives

A range of internal hard disc upgrades is available. The upgrades simply plug into the internal expansion slot. Also suitable for the A3010.

80Mb	£149
120Mb	£185
170Mb	£205
240Mb	£230
RISC OS 3	£39
ARM3 (25MHz)	£129

(Dealer fitting recommended for the ARM3)

A3010 2-4Mb RAM upgrade Introductory price £79

A3000 4Mb RAM £99

A3010 upgrades

Memory	
1-4Mb	£115
1-2Mb	£38
2-4Mb	£79

The 2-4Mb upgrade is constructed on a compact four-layer board. No soldering is required.

Hard drives

A range of internal hard disc upgrades is available. The upgrades simply plug into the internal expansion slot. For prices, refer to the A3000 section.

A310 upgrades

Memory	
1-2Mb	£89
1-4Mb	£119

All our A310 memory upgrades are constructed using four-layer circuit boards. There is no other 300 series RAM upgrade which has been available for as long as this one, and which has the same reputation for quality and reliability. A fitting service is available.

4-8Mb	£199

Hard drives

A range of internal hard disc upgrades is available. Prices below are for complete systems, including metalwork, controller card and cables as appropriate. No specialist knowledge is required either for installation or use. A backplane is normally required in order to fit a hard drive.

IDE	
425Mb	£165
540Mb	£195
Larger sizes	£Call
SCSI	
540Mb	£215
1Gb	£284
Backplane (4-slot, four-layer)	£49
Fan for above	£8
RISC OS 3	£39
RISC OS carrier board	£17
ARM3 25MHz	£129
MEMC1a	£39

A5000

Memory	
2-4Mb	£74
4-8Mb	£199

Dealer fitting for the 8Mb upgrade is recommended for the 25MHz A5000.

A3020/A4000

Memory	
2-4Mb	£74
Hard drives	
80Mb	£96
120Mb	£132
140Mb	£147

A400/1

Memory	
Per Mb (up to 4Mb)	£38
4-8Mb	£199
RISC OS 3	£39
ARM3 (25MHz)	£129

Hard drives. For prices, refer to the A310 section.

Various

SCSI card	£79
Alsystems SCSI 2	£170
ARM3	£129
RISC OS 3	£39
MEMC1a	£39
Hard disc cradle	£6
Fan filters (pack of 5)	£3
RISC OS manuals, no vat	£22
Dongle dangle	£6
Chip extractor tool (for eg MEMC, ARM2)	£4
CDFS upgrade for Oak SCSI card	£25

The following items are reduced to clear. Please phone to check availability.

Artworks	£99
Wordworks	£25
Impression Style	£59

RISC PC

Extra RAM (SIMM)	
4Mb	£85
8Mb	£175
16Mb	£295
32Mb	£Call
SIMMs taken in part exchange (4Mb or larger).	
2Mb VRAM	£139
RiscPC600	
4M, HD425 AKF60	£1148
4M, HD425 AKF85	£1426
RiscPC700	
5M, HD425 AKF60	£1360
5M, HD425 AKF85	£1635
10M, HD850 AKF60	£1692
10M, HD850 AKF85	£1970
486PC card (when ordered with RISC PC)	£99

2nd User

Please phone to check availability.

A3000 1-2Mb	£27
A3000 RAM board (ie bare board, no chips)	£5
A5000 2-4Mb	£58
4Mb SIMM (Risc PC)	£75
16Mb (Risc PC)	£275

Spares/Repairs

We carry stocks of most replacement chips for the Acorn range. (MEMC, VIDC, IOC and most memory devices). We can also fit any upgrades and offer a computer repair service.

How to order: Please add VAT (17.5%) to all prices. Cheques made payable to IFEL. Most Credit cards accepted, and Switch. Official orders welcome.

Educational and quantity discount available. Dealer enquiries welcome.

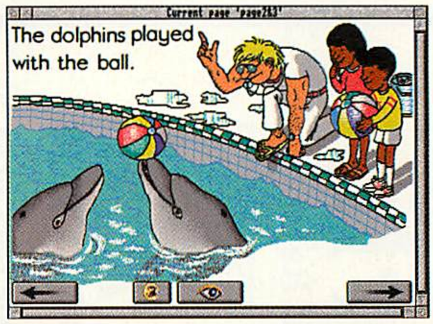
All products (except some from the "2nd User" section) are fully guaranteed for 12 months. All items normally carried in stock have a 14-day money-back guarantee.

IFEL

34 Culver Road, Saltash, Cornwall PL12 4DR. Tel (01752) 847286. *Fax (01752) 840029*

VISA

Research speaks volumes for Sherston's talking books



Real gains can be made with this software.

Recent research carried out in Plymouth schools suggests that Sherston Software's talking technology is making quite an impression on the teaching of reading in infant schools. The research, carried out by Jane Medwell, Senior Lecturer in Education at St. Mark's and St. John's College, Plymouth which is due to be published next year, has highlighted some interesting points.

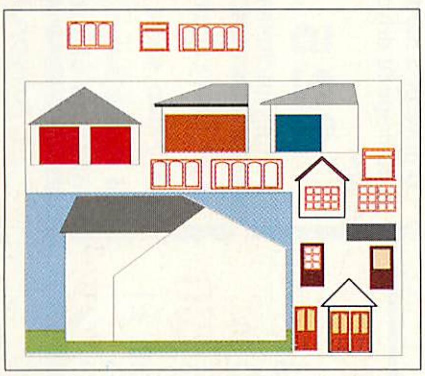
'The children using the electronic books showed significantly greater increases in word accuracy than those who did not have access to the computer. Some of the children showed increases as great or greater than when they read books with the teacher.' Jane Medwell's research also highlights some interesting gender trends when she points out that, 'One finding of particular interest is that the boys seem to show greater increases in word accuracy when using the computer than the girls. Given that most struggling readers are boys, this is likely to interest many teachers.'

The children involved in the research were using Sherston Software's *Naughty Stories* and the *Oxford Reading Tree Talking Stories*.

Sherston
Tel: (01666) 840433
Fax: (01666) 840048
Email: Info@sherston.co.uk

Sharing resources

THERE must be hundreds of teachers up and down the country spending thousands of hours producing some superb resources for their pupils. If I achieve nothing else through these pages, I would like to think that I have encouraged teachers to share their hard work with others.



MyWorld: Shared resources is surely the way forward.

The latest offering comes from St Barnabas' CofE Primary School, who, if I'm not mistaken, were one of the winners of last years' *Acorn User* Schools competition. Their Deputy Head, Graham Dean, has got some of his Year 6 pupils to produce some drawings of houses and associated components (windows, doors, etc) and has put them together as five *My World* screens for some of the younger ones to use. He is willing to share the work at a cost of £2.50 for a disc containing all five files. If anyone out there thinks that the quality of this product might be a little doubtful, you'll need to think again.

These are superb drawings which represent a considerable time investment from a very meticulous teacher and his pupils. The files would be suitable for Key Stage 1 and 2 and is available from Graham Dean, St Barnabas' CofE Primary School, Knowlesly Road, Darwen, Lancashire, BB3 2JA. Please make cheques payable to St Barnabas' School Fund. If you haven't got *My World*, it's about time you did and that is available from SEMERC, tel: 0161-627 4469.

If anyone else has any resources they would like to share, please send them to me at the address below including as much information about them as possible (software required, Key Stage, subject/topic etc).

Whoops!

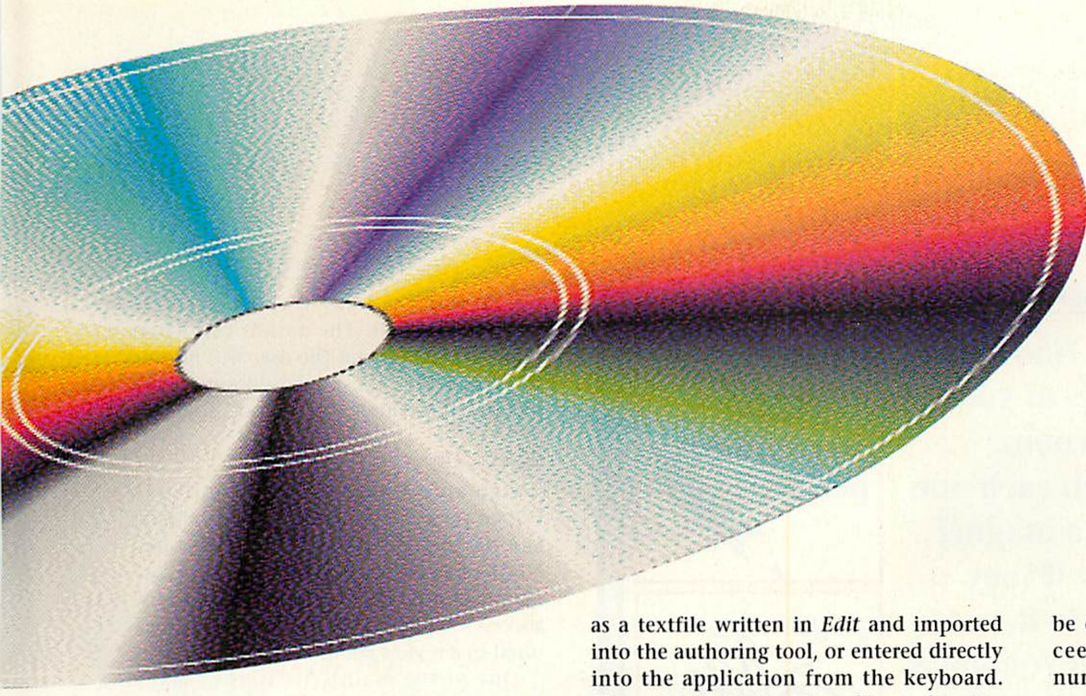
I'm not quite sure how we managed this one, but the review of Room20's *Report* in the Christmas issue carried screenshots of another report writing package. Apologies to all concerned, especially Room20 Software.

Tesco Acorn Scheme

AS previously predicted, the 1995 Tesco/Acorn computers in schools scheme was an overwhelming success with schools receiving almost 5000 free computers (about 1000 more than last year) and over 1000 gigabytes of disc storage space. All of this, together with several other facts and figures, were delivered to schools at the end of last term. Included with the glossy brochure of facts and figures, is a small questionnaire for teachers to complete. The brochure is well produced, fun to read and features a mouse with a smiling face saying 'click click'. The thing that bothers me is that, although the mouse is drawn in a sort of cartoon fashion, it is without doubt, a grey, single button, MkIV mouse from an Apple Macintosh.

Contacting me

You can contact the Education page by writing to me, Geoff Preston at Acorn User, IDG Media, Media House Adlington Park, Macclesfield SK10 4NP or by e-mail to: gpreston@arcade.demon.co.uk



Make your own CD-ROM

Geoff Preston looks at what software is available to produce your own multimedia CD-ROM

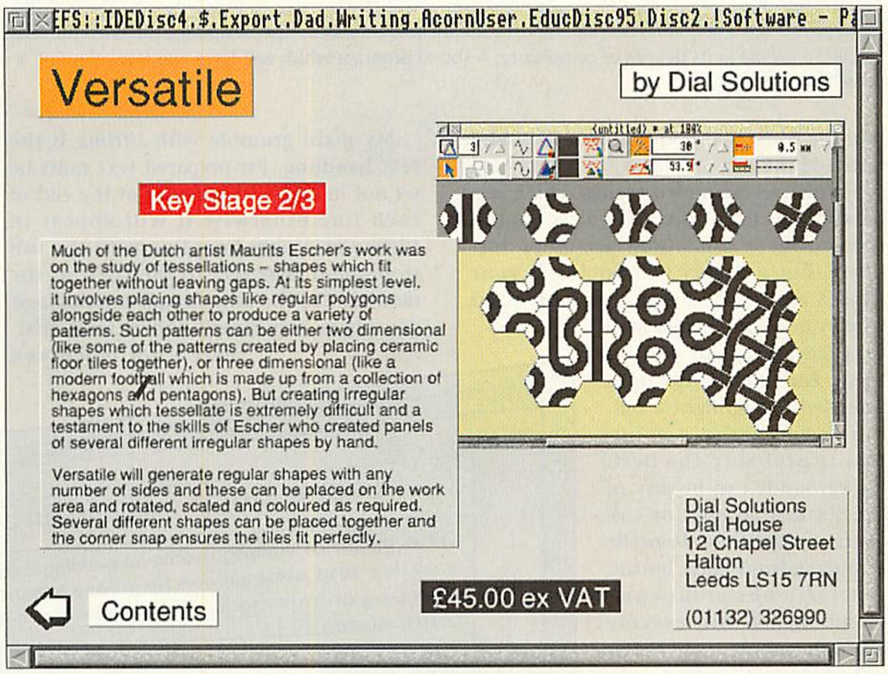
The Authoring Program

Assuming you're not going to write the multimedia engine yourself, you'll be looking for a multimedia authoring tool. As far as the Acorn user is concerned, there are several possibilities although I'm going to look in detail at five. The main contenders are *Genesis Professional* from Oak Solutions, *Magpie* from Longman Logotron, *Ultima* from SEMERC, *Key Author* from Anglia Multimedia, and the latest program of this type, *Hyperstudio* from TAG.

I believe the final choice of authoring tool will depend not so much on the features of the actual programs, but the features they impart to the finished presentations. Of course, these programs are not just for creating CD ROMs, you can use them to produce much smaller files to fit onto conventional discs.

All of these programs support text either as a textfile written in *Edit* and imported into the authoring tool, or entered directly into the application from the keyboard. They will all display *Draw* files and sprites and they can also all output digitally recorded sound samples. An important feature, if you're intending to distribute your work, is the fact that they can all run without the editor, that's about all they have in common, apart from their ease of use.

All the programs have been designed to be extremely intuitive and they all succeed. Anyone can put together any number of linked pages quickly but the more features you use the harder it gets. It only becomes more difficult when you begin adding all the frills and flashing lights not vital to the final product. So really, it's isn't the important things that are going to influence your choice of authoring tool, it's the trivial things like fancy backdrops and screen clearing effects.

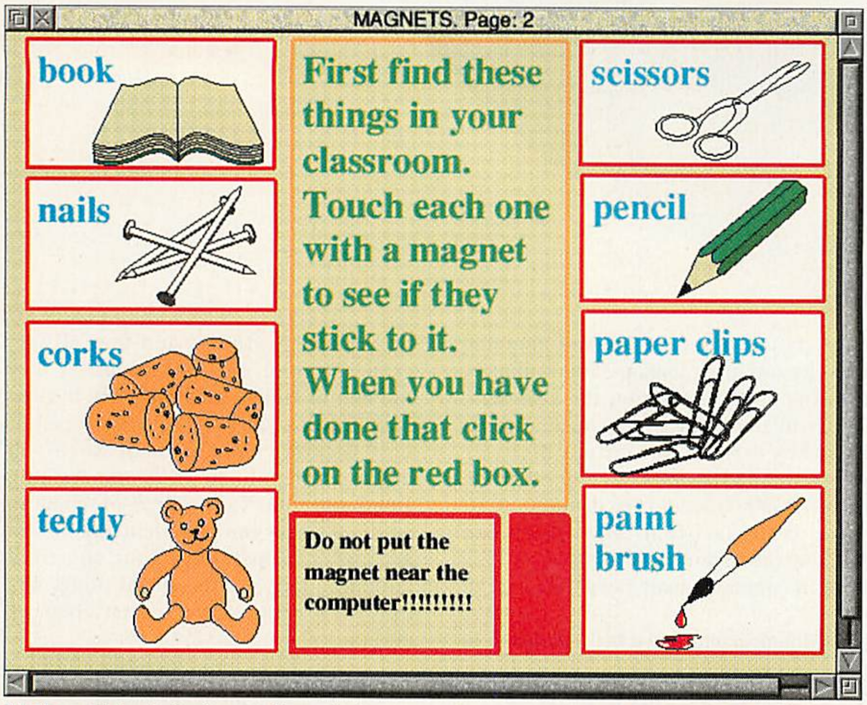


Note the different coloured text and the raised and indented text frames. Linking pages is simplicity itself and is done through dialogue boxes and menus.

Ultima

I am more familiar with this program than the others, partly because I wrote the manual. At the time of writing though I haven't seen a major presentation authored with *Ultima,* which is surprising because it is a very capable program, produces very compact files and has some strong features. It is the only one of the five to incorporate switch control as standard, which means major CD-ROM applications created with *Ultima* can be operated by a simple on/off switch. For those with physical impairment, this could well be a minimum requirement.

The pages created in *Ultima* may con-



Similar to *Ultima* in its degree of complexity. A sound program which will force you into adopting a consistent approach.

tain the usual text and graphics files, and video sequences in *Replay* format. Also supported are animated sprites which can be sequenced within *Ultima*. For small objects, these animations are quite adequate, but not very convincing if your frames are much larger that icon sized sprites because *Ultima* will take too long to render them. For small animations intended to highlight a button or emphasise a point, this is probably the best. Backgrounds can be any of the sixteen colours or can contain a sprite or *Draw*file as a backdrop. Each button can carry numerous commands which will execute when the mouse is clicked or moved over it. Buttons can be any object type, including a text object which can be displayed as either plain or with one of three borders and with any background or text colour.

One of the neatest features is the run-time conversion. *Ultima* will take your files and convert them into a stand alone application that doesn't need *Ultima* to run. It means you can distribute your work and anyone can use it even if they don't own *Ultima*. Once you have converted your work, it is still possible to edit the files providing *Ultima* is loaded.

My main grumble with *Ultima* is the text handling. Pre-prepared text must be set out in *Edit* with a return at the end of each line otherwise it will appear in *Ultima* as a very long line with the full stop about four feet to the right of the monitor. On the other hand, entering text directly is very simple. Apart from that, there's not much you can do with the text – it's aligned on the left and that's it. The author can determine whether or not the user will be able to extract the text, or indeed any or the pictures and sounds.

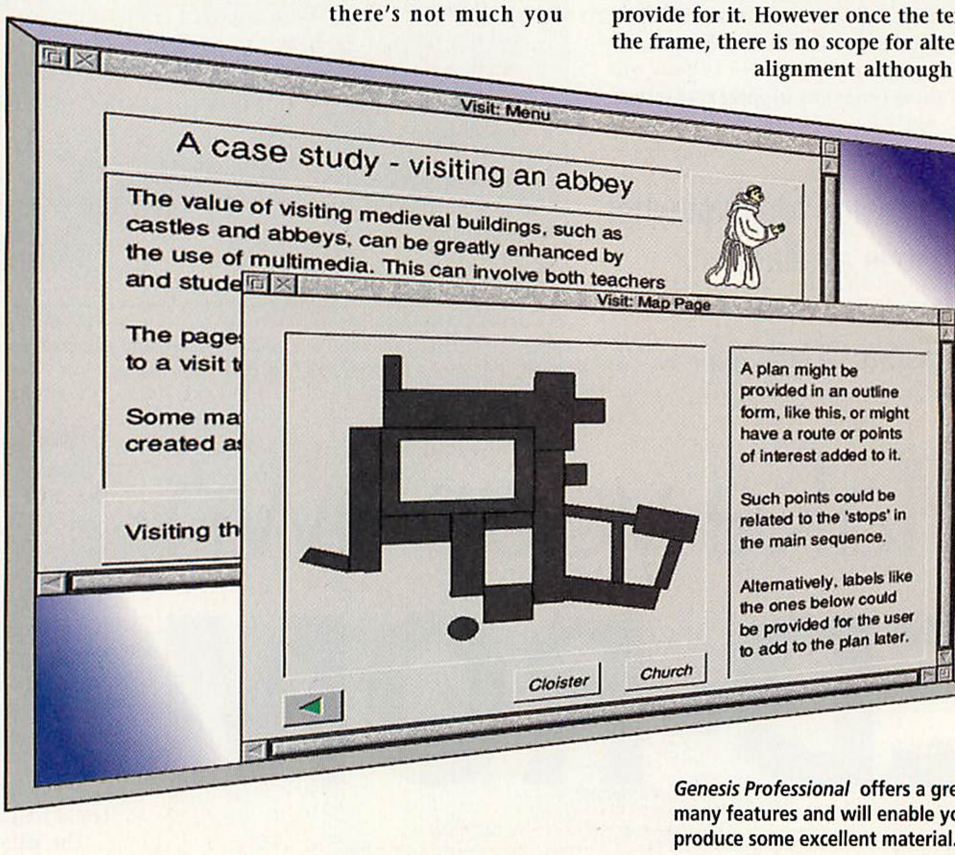
Magpie

Longman's *Magpie* is very similar to *Ultima* in so far as its features are similar and the final product has similar features. *Magpie* has been a favourite amongst primary school teachers and one notable success was *Moira's Alphabet* which I featured in a review about 18 months ago.

One of the main criticisms of many 'home-grown' multimedia presentations is the lack of consistency between pages. The great strength of *Magpie* is that it forces the author to remain consistent by starting off setting some global default values such as page size and colour.

Setting buttons to move between pages is done through a dialogue and you're limited to half-a-dozen pre-determined icons. This ensures that there will be consistency, providing you make the same choice each time. If you want to advance from the basic button icons provided, you can select a transparent button which can be placed over the top of whatever you choose. The use of skeleton or master pages also helps to ensure a consistent approach and eliminates the tiresome repetition of redrawing the same page over and over again.

Text, I feel, is handled better in *Magpie* than in *Ultima* because the text will format itself into whatever size frame you provide for it. However once the text is in the frame, there is no scope for altering its alignment although it will



Genesis Professional offers a great many features and will enable you to produce some excellent material.

re-format itself if the size of the frame is altered. The only text files it will handle are those of type &FFF (*Edit*) and surprisingly not files from other Longman programs like *Pendown* or *First Page*.

The frames for text and graphics can have an outline of varying thickness and colour, but there are no raised or sunken frames as in *Ultima*. You can create a drop shadow by placing a grey frame behind, and slightly to the side of a white frame. This is easily achieved with *Magpie*'s 'force to back' button. Simply click on an object and it's placed behind all the others. It doesn't take long to get all the elements of each page in the correct order.

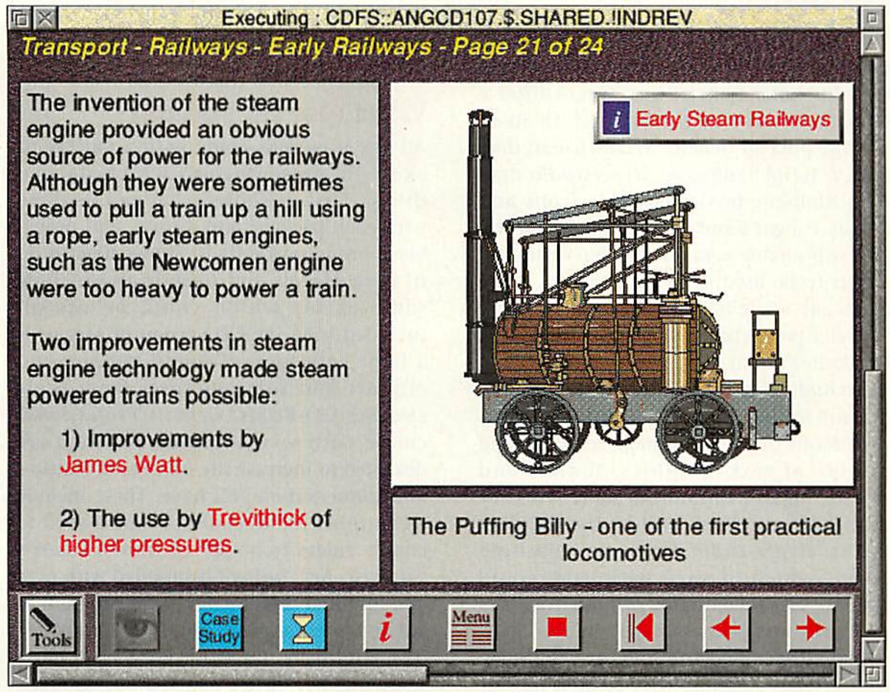
Genesis Professional

Genesis was the first Acorn multimedia authoring tool and has undergone many enhancements since its introduction 3 years ago. Currently *Genesis Professional* is the top of the range version and is the authoring tool many people use to create CDs if they do not have their own engine. *Genesis Professional* just about does it all. It can handle *Replay* and *Ace* films which means that the output from a large number of programs can be incorporated into these presentations. It can also render *ArtWorks* files and *Euclid* 3D files, it can deal with CSV data and understands files from *Windows* including .BMP files and .WAV sound samples.

One of the main strengths of the software is its script language, used to control both actions and the contents of the windows. These include decisions based on user input and scrolling text in a frame. The interesting thing here is that you don't have to use the script language unless you want to do something fairly flashy. If you do, you're probably better off ignoring the manual and pinching and possibly modifying the relevant bits from one of the numerous examples. (But you didn't read that here!)

You really can get a professional looking presentation from *Genesis Professional*. *Map Skills*, *London from the Air* and *Mechanisms* which were featured in the January issue and were all created using *Genesis Professional*. Often, the only give-away that the presentation was created using *Genesis* and not with a dedicated engine, is that in the filer window, alongside the presentation, you will find *Browser*, the read only application that reads but cannot alter *Genesis* presentations. *Browser* is free to distribute, providing no profit is made.

The manual I found slightly unfriendly, especially the section about the script language, but the examples on the disc are excellent and most of the information required can be found there.



Key Author has been responsible for many excellent CD-ROMs like Anglia's *Industrial Revolution*.

Key Author

This is another program which has been well used for creating CDs, with over twenty to its credit. I have featured most of Anglia's CD-ROMs in past reviews which were all created with *Key Author* and, in view of the high quality of their software, says more for the program than any review. I understand several other software houses will be releasing CD-ROMs authored using *Key Author*.

At the time of writing, version 3 is just about to be launched and should be available now. *Key Author3* is really an updated version of the previous *Key Author* program with a better user interface and a some extra features. In particular, there is now greater use of dialogue boxes for selecting particular features or effects and the scripting language enables an almost limitless number of special effects to be created.

There isn't an authoring program for the other platforms, but files created with *Key Author3* on an Acorn computer can run on PC and Macintosh provided the necessary runtime program has been obtained from Anglia. Anglia will also advise on its use. *Key Author3* is the only one of the bunch currently capable of handling MPEG, and there is also support for audio CD and for Laservision discs.

A feature which will appeal to many is that *Key Author3* fully integrates with *Key Plus* and the other members of the *Key* family. If you use any of these this may be a deciding factor in you choice. An interesting feature is that *Key Author3* has Concept Keyboard control built in which will be particularly important for presentations developed for primary school or for special needs.

The manual is a model of clarity taking the user through the various features in more or less the order one would expect to use them.

	Price	Licence	Text			Graphics				Movies			Sound				Effects					Other			Phone
			Import	Direct Entry	Alignment	Drawfile	Sprite	Direct Entry	Other Formats	Replay	Ace Film	Animations	Armadeus	Maestro	Other formats	Simulated Speech	Backdrop	Text Frames	Page Clears	Audio CD Control	Extract Resources	Special Needs Access	Decision Making	Script Language	
Ultima	£42+VAT	Site	•	•		•	•			•		•	•			•	•	•			•	•	•		0161-627 4469
Magpie	£62+VAT	Single*	•	•		•	•	‡	•	•	•		•	•	•	•	•			•			•		(01223) 425558
Genesis Pro	£120+VAT	Single*	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•		•	•	†	•	•	(01132) 326992
HyperStudio	£99.95+VAT	Single*	•	•	•	•	•	•	•	•		•	•	•	•		•	•	•	•	•	†	•	•	(01474) 357350
Key Author	£55.00+VAT	Single*	•	•	•	•	•	‡		•	•		•		•		•	•	•	•	•	•	•	•	0171-389 8555

† – with special access software
‡ – limited to lines/boxes for labelling
* – Multi-user/site licences available. Call for prices.

Hyperstudio

This is the latest authoring tool and it's going to provide some very stiff competition for both *Genesis* and *Key Author* – especially in view of the fact that it's about half the price of *Genesis*. What *Genesis* does with a script language, *Hyperstudio* does with dialogue boxes, writable icons and menus. It's got some very advanced features and will enable a much greater variety of effects to be used. One such feature is the different ways it can clear the window between page changes. All the others just blank the current page and render the next. *Hyperstudio* can fade from one to the other, or scroll or slide, open like two doors etc.

In terms of the basic page selection and display of text, graphics, sounds and movies, all five can do the same – it's the special effects which will be the deciding factor. *Hyperstudio* has some smashing effects which, if used with care, could enhance any presentation although with so many at your disposal it's easy to over-do it.

Hyperstudio has both a PC and a Macintosh version enabling files created on one platform to be used on either of the other two. Clearly this feature offers the advantage of being able to run the presentations on a greater number of computers. The disadvantage is that because certain types of files used by the three platforms are so different, *HyperStudio* can only use features which will easily translate between the three platforms. Therefore, there is no support for movie files such as *Ace* films, but there is direct line video.

What else do you get?

All the programs come with a variety of example presentations which do two things. First, it shows what can be done with each package and second, and probably more importantly, it shows how to do it. Both *Magpie* and *Genesis* also include some extras which could be useful. Included with the CD version of *Magpie* is a large collection of sound samples and clip-art and some pictures from their *Decades* CD-ROMs. *Genesis Professional* comes with several resources which are designed to increase the number of features your presentation will have. These include a controller for an audio CD and a shell to enable videos to be played from a Laservision disc. *Key Author3* is supplied with over one hundred useful icons and a program to convert presentations from older versions of the software, the CD-ROM version has a huge number of age targeted backgrounds and sounds. There are also a number of resources which teachers would find useful including *Replay* files from Anglia TV. *HyperStudio* comes with a CD-ROM containing a massive number of resources including some superb bit-mapped images of pointers, frames ready for animation, movies and sound samples.

Contact details

Longman Logotron Tel: (01223) 425558 Fax: (01223) 425349	TAG Developments Tel: (01474) 357350 Fax: (01474) 537887
Oak Solutions Tel: 0113-232 6992 Fax: 0113-232 6993	Anglia Multimedia Tel: 0171-389 8555
SEMERC Tel: 0161-627 4469 Fax: 0161-627 2381	

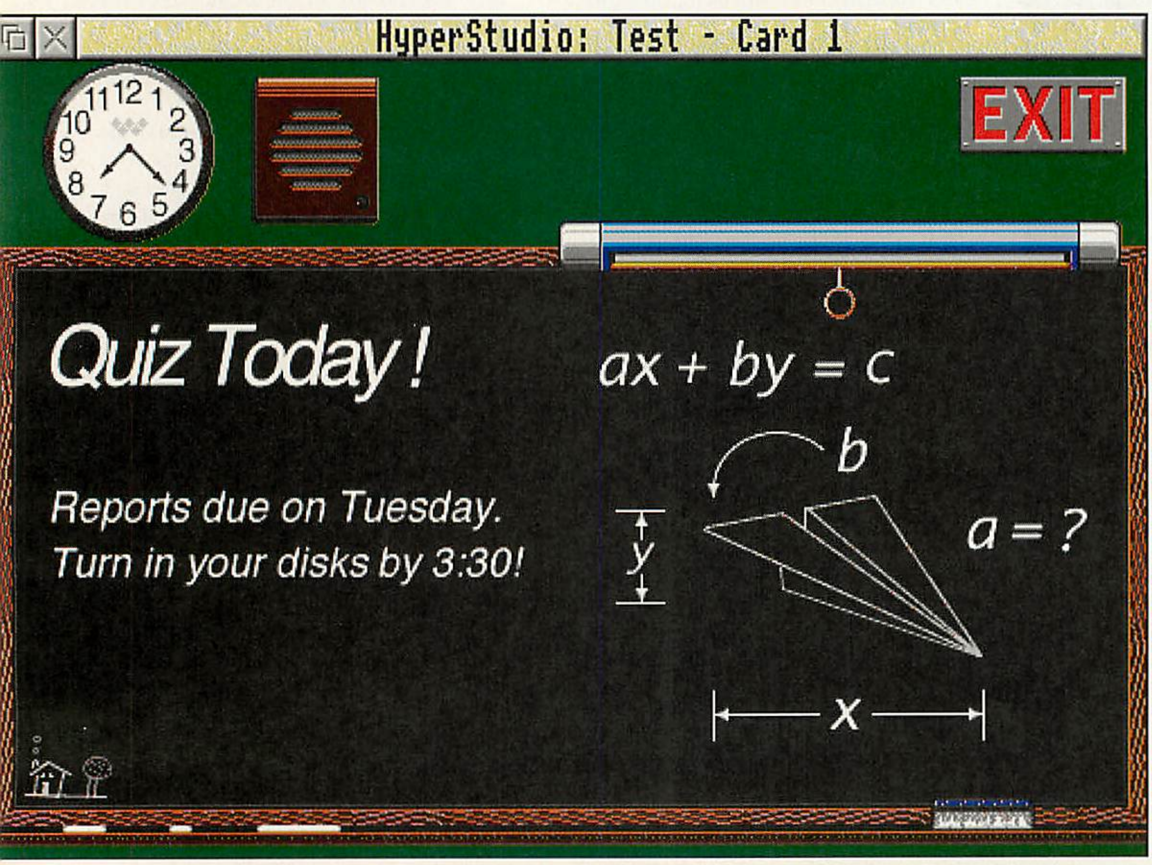
Licensing your presentation

If you created the whole presentation yourself, including the driving software, you are, of course, free to do what you like with it. If you used a commercial product like one of those featured here, then you will have to seek permission to distribute it. *Genesis, Magpie, Key Author* and *HyperStudio* are supplied with a version of the software which enables anyone to use the presentation, but not to alter it.

Ultima can produce a stand-alone application. Apart from *Key Author*, the cost of these programs includes a licence to allow the user to freely distribute their product with the read-only version of the authoring software, providing it is not being sold. *Key Author* files may only be distributed within the bounds of the site licence unless written permission is given by Anglia. However, the most you could pay for a site licence is £200 and in many cases it will be much less, which is pretty good in view of the low cost of the stand-alone product.

If you intend selling your work for profit, you'll need to contact the distributors of the authoring software to obtain a license or written permission. In fact, even if you intend giving your software away, it is courteous to inform the software house responsible for developing the authoring program of your intentions. AU

● *Next Month: Some authoring programs you may not have thought of.*



The latest authoring tool offers lots of features and is very reasonably priced. Extensive use of dialogues makes life very easy for those who don't like script languages, but occasionally fiddly.

Mike Cook's hardware series

Run the RISC

Mike Cook surfs a slow wave with minute accuracy

At the last Acorn World Show my official fan club — consisting of Gavin, Kieran and Layla — said they checked a handful of my articles and gave a cheer for every component they found in the Maplin catalogue. Well this month I think there will be a lot more cheering for not only every component is available from Maplin but the whole kit is.

What I'm going to look at this time is a real-time clock calibrator. This is one of those projects I have been meaning to do for some time and when I saw that Maplin had a kit to do it I thought I would adapt it to use with our Risc computers. The kit has a catalogue number of LP70M and is priced at £23.99 in the latest catalogue.



Real-time clock calibrator – now check the Maplin catalogue!

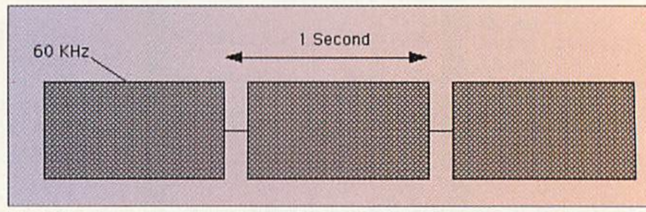


Figure 1: Modulation of the carrier by turning it on and off

Not many people know that on very long wave radio calibration time transmissions are being continuously sent. In the UK this is done by a transmitter at Rugby which is locked to a Caesium resonator clock run by the National Physical laboratory. This is a continuous source of accurate time and we can use it to correct and update our real-time clock so that it maintains spot-on accuracy.

These transmissions take place at 60KHz, a frequency that you can't normally receive on domestic radios. The time and date is transmitted every minute by turning the transmitter on and off in a way similar to Morse Code.

It's not Morse Code however, but it is very easy for a computer to decode – in fact with practice you could decode it by ear. Basically the format is shown in Figure 1 and consists of turning the transmitter off for 100 mS at the start of each second for a logic 0 and for 200 mS for a logic one. When decoded the signals look like Figure 2.

The information is then sent by a series of zeros and ones over the next minute in a BCD or binary coded decimal system. This is the slow information, a fast copy of this is sent during the first second of the minute.

However, it is not that important to decode this fast data for two reasons. First of all it is more prone to interference caused by the computer and weak reception of the transmission and second, you have to wait a maximum of one minute for this particular second to come round so there is not much time saved.

The data format over the minute is shown in Figure 3. The numbers in the boxes are the seconds past the minute when that byte of information is sent. To synchronise receiving when you first tune in, each minute is ended by a minute identifier of the bits 0111110 – a bit pattern that won't normally be sent.

This is a little bit of an oversimplification as there are really two types of data being sent. The DUT and the minute identifier contain second level data. This has a different format as shown in Figure 4.

In fact the minute identifier, if decoded as normal, produces the bit pattern 0111110, but if decoded with second-level data contains parity checks for the time and date. By the way, the

Maplin article didn't say what DUT stood for so I looked up the original references in Wireless World and that didn't say either but I think it is something to do with a total second count. Does anyone know for sure?

The actual hardware design I will not comment on too much, save to say I wouldn't have designed it like it is. Basically there are two printed circuit boards, a receiver and decoder. The decoder needs to be in a screened box because it produces interference at exactly the same frequency you are trying to receive – not the best of design strategies. There is an LED and a buzzer that are activated when the transmitter turns on and off. I found it best to disconnect the buzzer once the receiver had been set up as it drove me mad, well madder.

The kit instructions are not very clear about setting up but it did not prove to be too difficult. I used an oscilloscope to tune up the output of the first PCB to maximum. I had to move the coils slightly outside the ferrite rod for maximum signal. I could see the signal turning on and off on the oscilloscope screen.

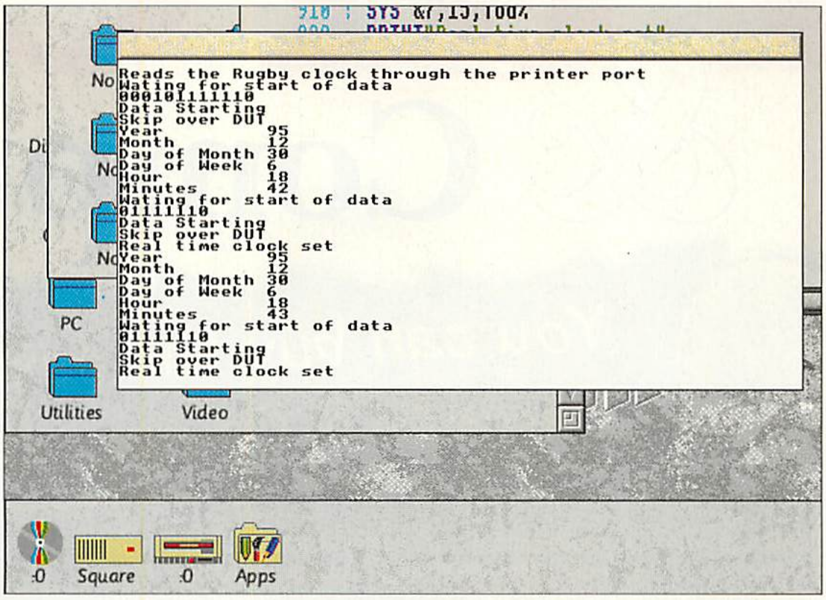
Then I looked at the voltage controlled oscillator of the phase locked loop and adjusted the free-running frequency so that I saw it pulsing cleanly in time with the signal. This corresponded to the same point where a clean on/off sound was heard at the buzzer. When it is slightly misaligned there is a clicking noise along with the bleeping.

Connecting to the computer was easy. I simply connected the P5 output of the clock decoder to the busy line of the printer port (pin 11) along with the 0 volt line to pin 25. The receiver needs 12 to 15 volts so that couldn't be provided by the computer and had to be supplied by a separate power supply. Next I used my port monitor to see that the zeros and ones corresponded to the bleeps.

Finally I wrote the programs to decode the pulses. There are two on the cover disc. The first, *Time0*, allows you to test the bit decoding – you can either get the time of each gap in the carrier or the zeros and ones. Note, when looking at the gaps some of the pulses contain different values than shown in Figure 2 but these will be decoded correctly with the thresholds in the program.

Time1 takes the signal and prints out the values it receives and then resets the internal real-time clock. I have only used the time here and not the data as I assume your data is correct. While it is waiting for the minute identifier it prints out the bits it is receiving. Note that the program steps over the DUT transmission by using a delay as some of the pulses here can fool the decoder into thinking time is passing more quickly.

As written, the program will not take into account leap seconds. These only happen about once a year, and the last was on the last minute of 1995. Personally I had better things to do at that moment, didn't you? AU



You can find two programs on the cover disk

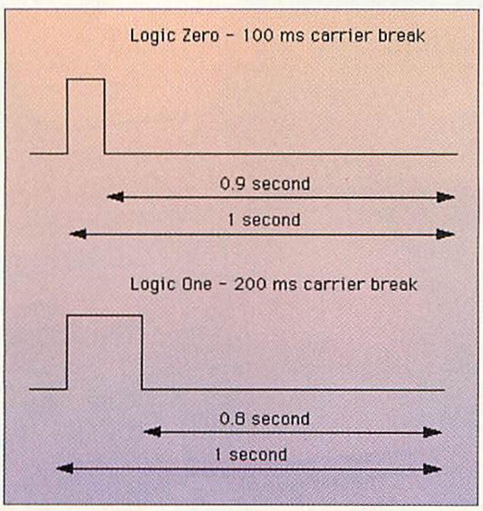


Figure 2: Decoded output

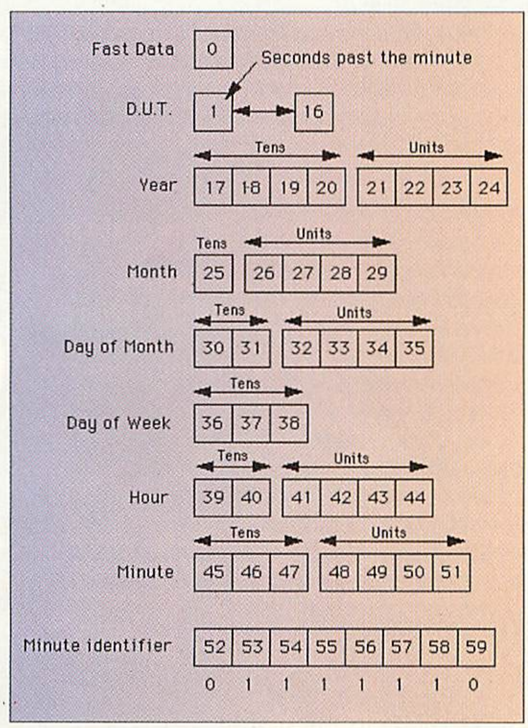


Figure 3: The format of the slow code

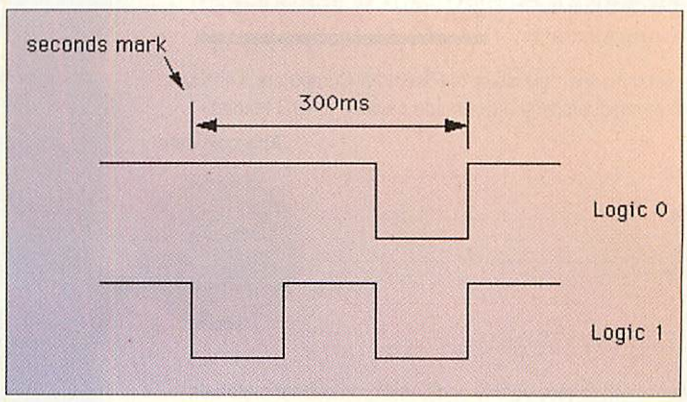
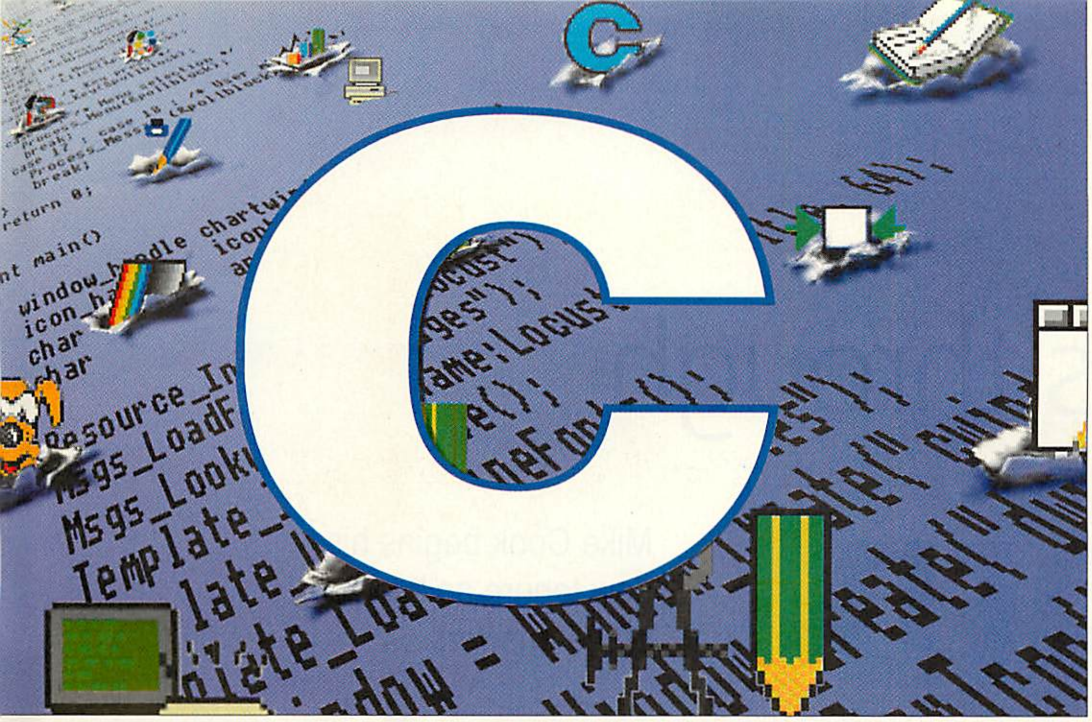


Figure 4: 2nd level code format



JACK KREINDLER

C for yourself

Steve Mumford persuades his application to appear on the icon bar

Last month, I tackled the job of coaxing our minimalist program to cooperate with the WIMP environment – we ended up with an application that loaded without crashing everything else and leaving when you asked it to. However, it couldn't really do much else and although we've won a technical victory, there's still a long way to go.

For this month's example, I've taken the existing code and added several new functions to enable it to reveal itself to the outside world. The application initialises itself in the same way as before, making use of the **_kernel_swi()** call supplied in the *kernel.h* library, but it continues by installing an icon on the icon bar and providing a function to deal with a new event.

As before, the greatest hurdle is arranging the data in a format the kernel calls will understand – if you own a set of Programmer's Reference Manuals, now would be a good time to dig them out. The data blocks required contain a mixture of words, bitfields and text and although they can be made neater by some clever use of structures, the rather simplistic techniques I'm introducing here need separate routines to convert the data from one format to another.

Wimp_CreateIcon takes data in two registers – **R1** points to a data block and the value in **R0** is used in conjunction with the first word in that block to calculate where the icon should be placed on the bar. Values of **R0 = 0** and **R1 = -1** will make the application appear on the right hand side of the bar towards the middle. The next four words in the data block define a bounding box for the icon to indicate how much space it will take up once on the bar.

Following that are the flags that determine the behaviour of the icon, and finally we specify the name of the sprite we wish to use – this is normally resting in the WIMP sprite pool after having been loaded with an **IconSprites** command. The data conversion between the four-byte integers and the single bytes used in the array is performed by **wtob()** and is essentially the opposite of **btow()**, introduced last month.

After creating the icon we enter **Wimp_Poll** as normal, and in order to determine when the user clicks on it, we need to listen out for the **Mouse_Click** event. In more complex cases, the data block it returns would be interrogated for the mouse position and the handle of the icon it was over at the time, but all the program does here is to record the number of the mouse button that was pressed.

However, it's a good opportunity to investigate the method of reporting errors – one of the simpler methods of providing output to the user – and the **mouseclick()** function has been coded so that when the user clicks on the icon, an error box pops up. As well as revealing which mouse button had been pressed, it gives the user the choice of quitting the program.

The function **report_error** was written to make this task easier. It takes three parameters – the first is the appropriate error number, the second is the string that the error box is to display and the third contains the flags that control the way the box responds. In our example, the message is built up using the standard string functions, and setting the first two bits in the flag produces an error box with the familiar *OK* and *Cancel* buttons. A click on *Cancel* returns a value of 2 in this case, and the program continues. However, clicking on *OK* gives a value of 1, triggering the **QUIT_FLAG** variable to be set to 1 and forcing the program to terminate.

The example program can be found on the cover disc, and the source code, liberally scattered with comments, is included within the application. Due to the fact that it uses the standard kernel calls, it will compile happily using either Acorn's or Beebug's compilers. Next month, we'll progress onwards and upwards to look at windows and menus – see you then. AU

Rambles through Acorn Wood

Mike Cook begins his new tenure as keeper of the answers

Welcome to a new and, I hope, different sort of column. Instead of a simple questions and answers session I want this to be more of a forum with readers writing in with questions as well as hints and tips. But not only that, I want to tell you about some of the things I have been up to during the month, things that probably won't make it into a full article but hopefully will be interesting nevertheless.

To kick off, as this is the first column no one has actually written in to it yet. However, several people have been contacting me on e-mail so I will use that as a basis to begin with.

This month I have been playing around with the Minnie sound interface from ESP – it certainly lives up to its name, it's tiny. The large box arrived measuring 25cm by 25cm by 14cm and inside the circuit board was only 6.5 by 2cm with three small surface mounting chips on it. In fact, it would have fitted in the smallest padded bag.

One snag was that it had a 5-pin socket on it that was meant to go into a 4-pin plug. Fortunately I was able to work out that the earth connection was the one to hang off the end as there was no one available for support for two weeks. It worked quite well with the Risc OS desktop but when I used it with the 486 second processor card the sound was far too loud, to the point of distortion on the internal speakers.

Fortunately a phone call to the software support of ESP revealed that there was an undocumented SWI that could control the volume. It was e-mailed to me by Andy Pierson, he wrote:

Following is the information required to set the volume for the PCSound support. Note that the volume of sound can also be set from Windows if you have some Windows software that can provide volume mixing facilities.

The SharedSound module is used to provide additional support for multiple users of the 16-bit sound system. Any number of handlers can be installed, one of which will be the PCSound handler. Because of this you should first interrogate SharedSound using HandlerInfo to discover the handler

SharedSound_HandlerInfo

This SWI is used to provide information on a specific handler.

On entry

R0 = handler number

On exit

If successful, V flag is clear and:

R0	number of next available handler or 0 for none
R1	Flags
R2	Name
R3	Sample frequency
R4	Sample type
R5	Volume

If unsuccessful, V flag is set and R0 points to a standard SWI error block.

Interrupts

Interrupts status is undefined

Fast interrupt are enabled

Processor mode

Processor is in SVC mode

Re-entrancy

SWI is not re-entrant

SharedSound_HandlerVolume

This is to set the volume level for a particular handler. Shared sound can use this information to provide internal mixing or pass it on to the handler at each buffer fill.

On entry

R0	Handler number
R1	Volume (bits 0-15 left channel, 16-31 right channel)

On exit

If successful, V flag is clear and:

R0	preserved
R1	current volume

If unsuccessful, V flag is set and R0 points to a standard SWI error block.

Interrupts

Interrupts status is undefined

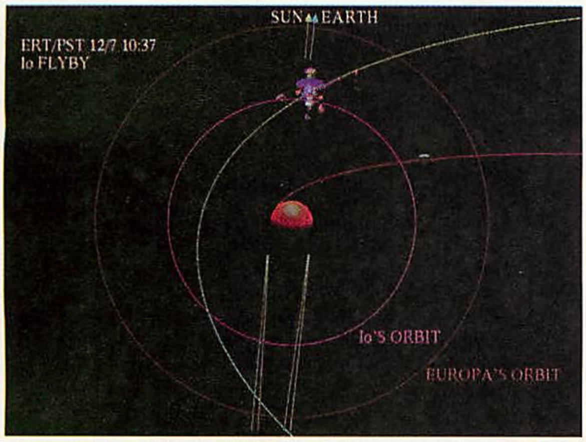
Fast interrupt are enabled

Processor mode

Processor is in SVC mode

Re-entrancy

SWI is not re-entrant



The Internet provides lots of information on the progress of the Galileo space probe and its voyage to Jupiter

number for PCSound.

When you know this you need to call HandlerVolume with the required handler number and new volume. Note that volumes are passed as a four-byte word which contains two bytes of volumes for each stereo channel. So to obtain full volume on the left and half volume on the right you would use the value &FFFF7FFF.

We fully expect to release a mixer application that will do all of this from a window and also provide the facility to store settings to be set at boot time. Until that arrives feel free to explore the following SWI calls.

Following the article on converting the A3000 MIDI interface to a standard podule I have been trying it out with the 486 card under Windows with some music demos. The send side worked OK but the receive side refused to work. I just couldn't get anything to record from the MIDI keyboard.

So after hours of trying I e-mailed the support desk at Aleph One who told me that I had got further than they had as they couldn't get a peep out of the MIDI either in or out under DOS. They said I was *on the leading edge here* and gave me the address of someone who might know the answer. I'll let you know how that progresses next month.

Spaced out

I've been writing some articles for *Acorn User*'s sister publication *Parents & Computers* – it covers Apple and PCs as well as Acorn equipment. In the most recent article I have been looking at astronomy software. I must say that what's available on the other platforms leaves the Acorn stuff standing – want to do something really professional Computer Concepts?

Unfortunately it seems that the Acorn world is missing out on some of the more specialist software. It's not only astronomy stuff, there is no heavyweight symbolic maths package to rival Maple, Math Cad or Mathamatica. Mind you I have convinced my son Alec (now 14) just how poor PCs are since the arrival of the 486 card. Before this he was impressed with the vast quantity of software available, but now he knows how often it crashes and how difficult it is to install. His basic phrase is 'Well what do you expect it's only a PC!'

Mission to Jupiter

The Internet has been very useful lately keeping me informed of the every move of the Galileo space probe as it approached and entered orbit around Jupiter. I was able to use the information to prepare a lecture on the eve of the probe entry for my astronomy class at the University.

If you have access to the Net the Web page *http://www.jpl.nasa.gov/galileo/.* sets you to the home page. I've found that I can get on fine at 8am but by lunch time things are so busy that I am often refused connection by the host.

By the way, for those of you who don't know I lecture in Physics at the Manchester Metropolitan University. Since we changed a few years back from being 'the Poly' few people know who we are. I lecture in Astronomy and also Computer Instrumentation for our Scientific Instrumentation courses.

Nowadays the only perk to the job is the direct Internet connection from my desk. So, no messing about with telephone calls, modems or information providers as my machine is a permanent part of the Net. Mind you I am thinking about getting on from home so my family can access the delights. I'll keep you posted.

More use from a User Port

A final e-mail was from Rob Cumming:

I have fairly recently become interested in getting signals in and out of the my ancient A3000. Your current articles in Acorn User are most useful. However, I bought a bargain user port and ADC add-on as an expansion podule. A lot of your articles for this are written for the BBC Micro.

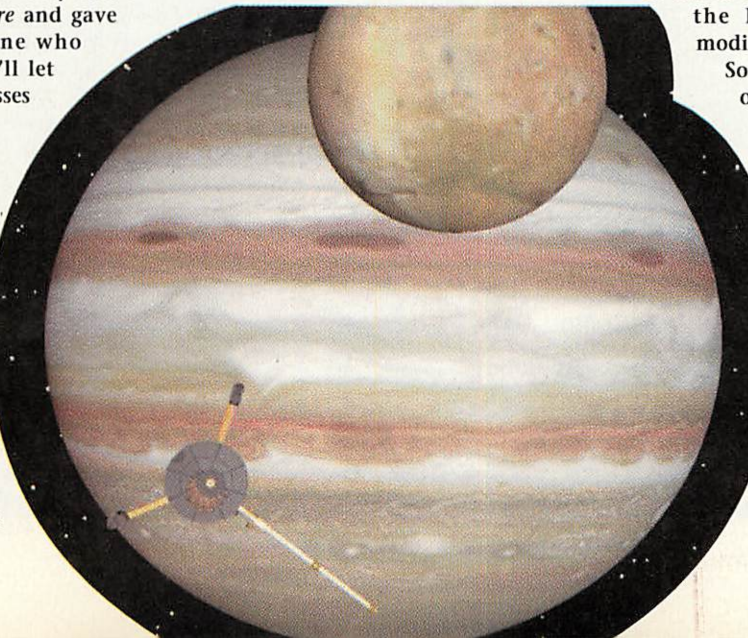
It's a great idea to have the articles available on the Net, but is there any chance of having some listings on too? I would like to be able to read the User Port material, for example. You had some articles on this for the BBC Micro would they work on the A3000 – I would prefer listings, since I'm connected to the Net via a PC, and I guess programs could not be transferred via DOS.

Dr Rob Cumming,
University of Teesside

Well Rob, thanks for looking at some of my articles on the Web. For those who have not yet caught up with them they are at: http://149.170.200.3/Physics/ Acorn/

There are two problems with supplying listings. First of all a lot of them are on the 5.25in disc and it is difficult for me to read them these days. The other point is that a lot simply would not work on the Risc OS machines without modification.

Sometimes this is simply a matter of changing ?&FE60 to the appropriate OSBYTE call but many times it is not that simple. You see, on the simpler machines you could disable all interrupts and have the whole machine to yourself. With the more modern machines you can't do this without it all falling over. I really don't think I can face converting 140 articles but if you have any specific requirements let me know and I will see what I can do. AU



Acorn Customer hotline

Essential information for all Acorn users, compiled by Dave Walker of Acorn Customer Services exclusively for *Acorn User*

Questions and Answers

When installing a Cumana internal IDE drive on a new Risc PC, you may get an error 'Unrecognised version of ADFS.'

The installation software was released some time before RISC OS 3.6; as ADFS was updated between RISC OS 3.5 and 3.6 to allow it to interface to the FileCore extensions, the software doesn't recognise the new version. Before attempting to use the installation software, you will need to issue:

```
*UNPLUG CDFSSoftATAPI
```

at the command line. Comment out (prefix with a |) the line in the !Run file of the install application which contains 'Run ADFSPatch'. You may then proceed with software installation as per the instructions.

Access+ Filetype Reassignments

Access+ recognises a number of filetypes; shared discs, protected shared discs and discs which have been mounted but for which the connection of the machine which owns them have timed-out are all assigned filetypes.

Three of the filetypes addressed by the Set Alias$@RunType command (which assigns an operation to be performed when a file of that type is double-clicked) have been re-assigned since the release of Access+. To avoid future filetype contention, we recommend that the following lines be modified in the version 1.0 release of the !Access+.!Run file:

```
%Set Alias$@RunType_FAF %ShareFSIcon %%0
```

change FAF to F9F

```
%Set Alias$@RunType_FAE %ShareFSIcon %%0
```

change FAE to F9E

```
%Set Alias$@RunType_FAD %ShareFSIcon %%0
```

change FAD to F9D

Acorn Customer Services
Acorn Computers Ltd
Acorn House, Vision Park,
Histon, Cambridge CB4 4AE
E-mail: customer.services@acorn.co.uk

Another Volume

Volume 5a of the Programmer's Reference Manual has been released. This covers the FileCore extensions which allow hard disc partition sizes >512Mb, embedded JPEG support in RISC OS 3.6, Risc PC 700 hardware, 16-bit sound and full details of TCP/IP and the Access protocols. It effectively supersedes Volume 5. Priced £29.75, this volume is available from Acorn dealers as product code ACJ25.

Boot sequence blues?

If you have a Risc PC running RISC OS 3.5 which is out of warranty, and you have accidentally erased your boot sequence or some other vital app from the distribution on your hard disc, help is now at hand.

A stripped-down copy of the hard disc distribution has been built which, when compressed, fits on two floppy discs along with the required decompressor and sufficient resources for the decompressor to operate.

The set, with a sheet of instructions, is available from Acorn Customer Services for 10 all-inclusive. This build excludes the movies, still images, audio samples, Diversion apps (except Tools) and patches found on a distribution as shipped.

Plane speaking

For A7000s and versions of the Risc PC 600 fitted with the latest-issue 16-bit sound capable motherboard, the backplanes are optional and can be purchased as an upgrade.

A two-slot backplane for the Risc PC 600 has the product code ACA29 and retails for £29.95, and the single-slot backplane for the A7000 has the product code AMD10 and retails for £29.95 (these prices ex VAT).

Risc PC 700 series machines ship with a backplane as standard. The A7000 can accommodate a backplane and expansion card or an internal CD ROM drive but not both, owing to the amount of space available inside the case.

If you need to fit both a CD ROM drive and an expansion card (other than a NIC card), you must purchase an external CD ROM drive.

Inside CDFS, Part 2

I admit leaving you with a conundrum last time; how do you get the physical drive number? This is where SWI "CDFS_ConvertDriveToDevice" comes in...

CDFS_ConvertDriveToDevice (SWI &41E80)

Converts a logical drive number to a physical drive number

On entry: R0 = logical drive number
On exit: R0 preserved
R1 = physical drive number
Use:

This call converts a logical drive number to a physical drive number. You can then use the physical drive number to produce a CDFS control block, which you have to pass when calling CDFSDriver SWIs.

This call returns an error if the logical drive is not known. Further details of the audio SWIs supported by CDFS versions up to 2.28 are now available as Application Note 293, which can be downloaded from ftp.acorn.co.uk and mirror sites or obtained on paper from Acorn Customer Services.

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*info

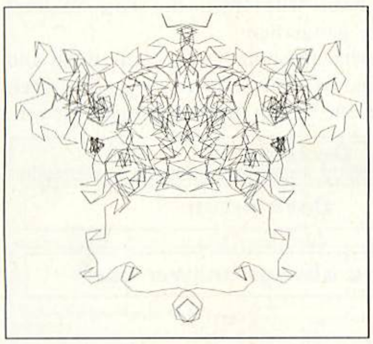
Dave Lawrence and Dave Acton launch into a new selection of weird and wonderful programmettes

Right on cue

Author: Jonathan Amery

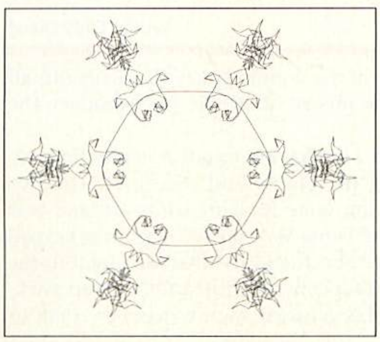
Why isn't there an A-level subject called 'Interesting Maths'? All *we* got to do was hyperbolic trigonometry and differential equations, a right load of hyperbolics if there was. *Curlicues* from Jonathan Amery is exactly the sort of maths I think would come in 'Interesting Maths', along with how to tell if a number is divisible by 11 (in your head) and why *not* to play the lottery.

Curlicues are curves created by treating the fractional result of an equation as an angle and plotting a series of lines of equal length. Jonathan found out about these curves from the book *Another Fine Math You've Got Me Into...* by Ian Stewart and wrote these programs to produce them.



Curlicues just draws them on the screen to an infinite number of lines (or until you get bored). *CurliDRAW* draws a specified number of lines of the curlicue and then creates a *Draw* file from the data.

The operation of both programs should be intuitive. The equation is in terms of X, and when deciding on a line length bear in mind that the screen is 2 x 2 units. Each screen unit is (in theory) about four inches in *Draw* file format.

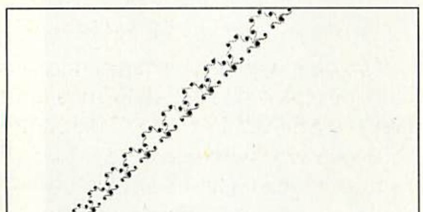


The best way to determine the Store Length in *CurliDRAW* is to run *Curlicues* first and keep an eye on the number in the top left hand corner of the screen. If you don't want to use Mode 29, or if you can't – it is a multiscan RO3.10+ mode – modify the second and third lines in the programs, or run the mode 12 versions in the *Mode12* directory.

The example patterns Arches, Bullring, The Bull and Loch Ness from *Another Fine Math...* as well as Wonder which is one Jonathan made up can be generated as follows:

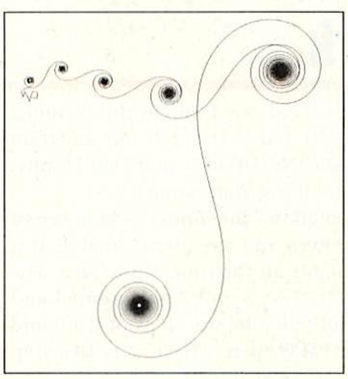
Arches:	X^(3/2)
Bullring:	(X^3)/1002
Loch Ness:	(LN X)^4
The Bull:	(X^3)/1013
Wonder:	((X^3)/23705)

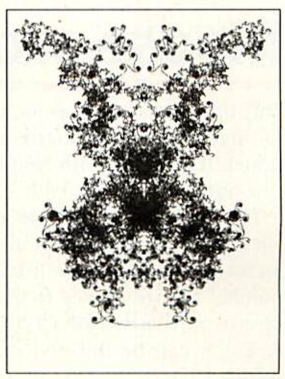
Both programs work best in BASIC64 because of the error additive effect of the algorithm so the FPU needs to be used. The Obey files *RunCurl* and *RunCurlDRA* have been set up to automatically load the BASIC64 module from the *System:Modules* directory and then run the relevant program.



"Arches" - A curlicue generated by the equation X^(3/2).

To restart the program press Escape; pressing Escape twice quits.





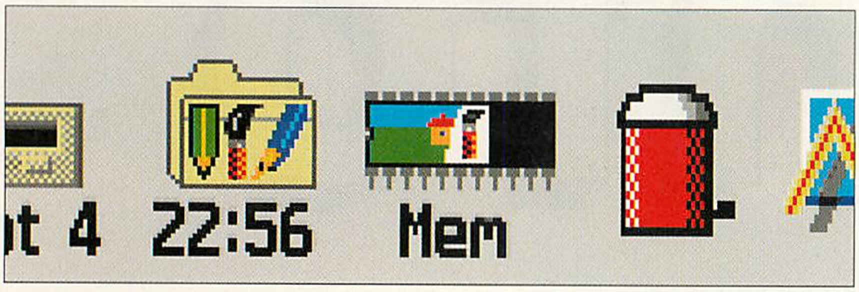
A load of rubbish

Author: Roberto Casula

Here's a set of menus and associated programs to add a trash can to Nick Craig-Wood's *Director*. Since Nick published his excellent Desktop enhancement tool, we've received a number of add-ons and hope to carry the best of them whenever space permits.

The trash can here was written by Roberto Casula and makes good use of *Director's* dynamic menu facilities. This is the ability to attach a BASIC program (or indeed one in any language) to a menu option to construct the menu *on the fly*, allowing menus to change dynamically (hence the name). It also demonstrates dragging files to Director icons.

Roberto has supplied a dummy *!Director* directory which contains two sub-directories. The entire application can be safely copied on top of an existing copy of *Director*; it will not do any harm unless you happen to have written some commands to do your own *bin*ing. Once copied, you will find an obey file called *+Default* within *!Director.Menus*. This should be merged with your existing *Default* file or whatever you have called your own main menu. Reloading your menu will place a small red Dalek on your icon bar; this is your bin.



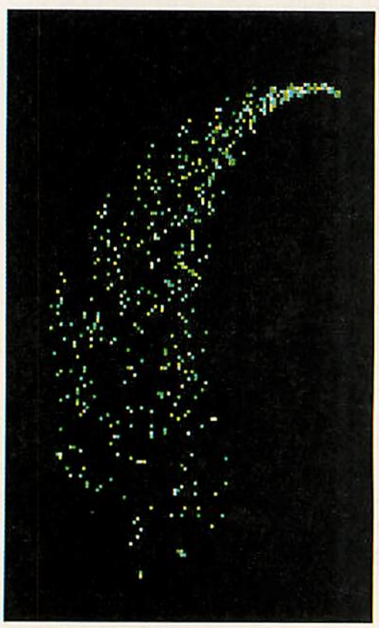
To make use of the bin, instead of using the filer menu to delete files, drag them to the Dalek, sorry, bin. The files will be deleted as expected, but they are also copied into *Bin* directory newly created within *Director*, giving you a chance to say: 'Oh my god I've just deleted all my work but luckily I can fish it out of the bin.

Files, and indeed, whole directories, in the bin are stored within subdirectories named according to the date on which they were 'deleted'. Clicking on the bin opens directory containing all these days. Menu options are provided for viewing individual days, purging the bin (deleting files for good) and searching for lost files.

Finally, an Adjust click on the icon checks the number of day files stored in the bin; when this reaches 77, the bin is full and you'll have to remove one or more days to make room for more files.

The foggiest idea

Author: Darren Northcott



By Darren Northcott's own admission, *Foglia2* is not his own work. It's a rather nice spinning, 3D, ferny, fractally, er, thing originally from the Datastream PD library. The problem with the original version was that it depended on a fixed screen base address. Darren has fixed this problem to work with any screen memory configuration and added mouse control to vary the rotation and mutation of the, er, thing. Darren says he doesn't know who the wrote the program, would anyone like to claim responsibility?

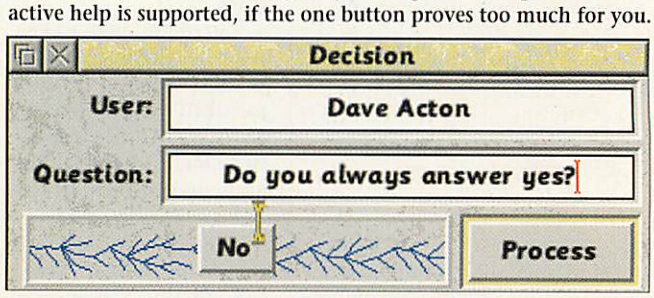
Decisions, decisions...

Author: David Llewellyn-Jones

Have trouble making decisions? Tired of sitting on the fence? Then this stress-relieving, labour-saving, decision-making application is for you. David Llewellyn-Jones is the brains behind *Decide*.

Simply install and click on the icon to bring up the decision window. Enter a question with a yes/no answer and click on Process, or press Return. The program will consider your question carefully, displaying a 'neurone link pattern' as it goes. Finally, the answer you need is displayed. *Decide* never changes its mind, so if you ask the same question again, the result will remain the same. So don't play any of those 'best of three' games here.

The program will only answer questions it can understand and the default user can be changed by editing the *Messages* file. Interactive help is supported, if the one button proves too much for you.



Mouse-work

Author: Eddy Oland

This little ditty comes from Eddy Oland. We thought this sounded too much like a pseudonym, so we fed it through our anagram finder. It came up with Noddy Dale, Noel Daddy and Don Deadly. Our sincere apologies, Eddy, for doubting your name

The program is a module which allows the mouse to be reversed – it also allows four preset mouse steps and one user definable. It is an interrupt program so it is available all the time it is loaded. The number keypad is used to access it. Keys 8 and 2 give normal and reverse movement, keys 1,3,7 and 9 give mouse steps of 2,4,6 and 8. Key 5 can be defined using ***MStep n** where n is the step required.

Control of the keypad is via the Numlock key; if this is off, all the above keys will alter the mouse otherwise they produce the normal responses.

Eddy says: 'I wrote this for *Elite* having found it nearly impossible to shoot anything using the mouse and rear laser. The two reversing keys, 2 and 8 are the same for *Elite's* forward and rear views, so the next time you're being shot up the rear press keypad 2 and get your own back. I've also found the module useful in the Desktop when I find I need finer control of the mouse in art packages etc, but obviously 2 and 8 get used slightly less here than in *Elite*.'

Moving Pictures

Author: Mr R J Cohn

Mr R J Cohn has been rather disappointed with Replay, but over the last three months he's been able to do a little twiddling and discovered one or two things, so break open the Kia-Ora and Butterkist and read on.

'The RISC OS manuals are sadly lacking in information about Replay; luckily fairly good information can be found in the *ARMovie* resource directory. If you have VRAM on your Risc PC, the following changes are beneficial:

● Using ARPlayer's Global Choices, set Interpolate on. This slows things down ever so slightly on 25fps films but significantly improves the quality.

● Forget about "Use colour in 16 colour modes". Replay doesn't work properly in 16 colours on an AKF60 and in other low-colour modes. Quality in 256 greys is much less than would be expected.

● The big mode settings in *!Boot.Choices.PreDesk.ARPlayer* should be changed as follows:

```
ARMovie$PrefBigMode x384y288c16mex2ey2;x480y352c16mex2ey2
;x480y352c16mex0ey0
```

● Edit *ARMovie.Boot* (or use Movie setup...Extra Args) to include -*small* after *Set Alias$@RunType_AE7 Run <ARMovie$Dir>.Player %%*0*. This doesn't make films look silly. After all, PlayBig is there for when you want things to look bitty.

'Replay also supports Trajectories and Shapes, although little mention is made of how to use these with *ARPlayer* properly. On the cover disc is a dummy *ARMovie*. Copying this to the real *ARMovie* creates the following:

● Inside Shapes: the directories *Film Rolls, Reflection, Rotations, Scale Up, Splits, XAnim, Zoom Up* and *Shadows*. The *Zoom Up* and *Scale Up* are replacements for the Acorn progs. *Film Rolls* is sub-divided into Broad, Normal and Tall.

● Inside Tools: the directories *Reflect, Rotate, Scale/Zoom, Split, XAnim, Shadows*. It will also copy the files inside of these directories. Note: *Make Scale* and *Make Zoom* are enhanced versions of the Acorn programs supplied with Replay.

'The programs inside tools create various rotations and flips. All act on 192144 films except 45°, which acts on 160128 films (an example of which is *LionFish*) less one line. Some are commented far more extensively than others. It would be nice to create a 45° version of a 192144 film, but unfortunately this would involve writing more than 255 pixels in a simple loop.

I have tried to split the horizontal lines written into two parts but without much success; Replay is very picky and gives no indication of why a shape file doesn't work. Using shapes means that Interpolation isn't used. This produces lower quality output. However, the simple flips and rotations (bar 45°) could use interpolation before output was place on the screen. Perhaps someone could write some code to take each interpolated frame and transform it before output. Maybe it could even use Sprite SWIs to perform awkward rotations.

Back to Rubiks

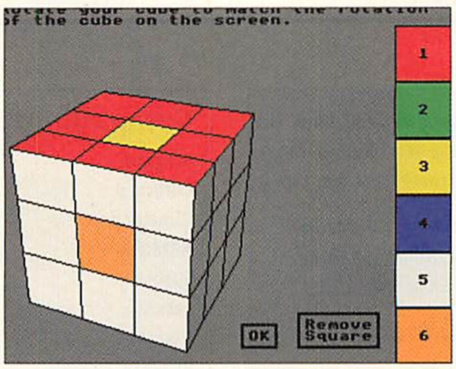
Author: Robert Waters

'Had I written this 10 years ago', writes Robert Waters, 'when Rubik's Cube was still in its heyday, it would probably have attracted much more attention than it will now. But I didn't have the computer or the solution 10 years ago, and besides I was only five.'

'*Rubix* is based on the book *The Simple Solution to Rubik's Cube* by James G Nourse. Selected moves are taken from *Cube Games* by Don Taylor and Leanne Rylands.

'This fascinating puzzle was designed by Ernö Rubik, an architect and teacher in Budapest, Hungary. It was apparently designed independently by Terutoshi Ishige, an engineer in Japan.

'The Rubik's cube has 43,252,003,274,489,856,000 possible combinations; this program solves the cube every time by selecting up to 17 from just 181 different sequences. A solution will be found, no matter how much you have turned the faces, guaranteed to involve less than 150 face turns. If you input the colour sequence carefully, a few times, and cannot get a solution, you (or somebody else) have probably taken the cube apart or rearranged the stickers. In this case, peel off all the stickers and replace them so that they are all the same colour on any one face.



'Load *Rubix* in the usual way, and click on the icon bar icon. This will take you to a full-screen blank Rubik's Cube with the six colours alongside and instructions at the top.

'Hold your cube as shown, with a corner pointing towards you and a face on the top. A square on the cube will be flashing black and white; this is the highlighted square. Set the colour of the flashing square to match your cube by clicking on one of the six coloured panels on the right. Repeat for each square on the face. If you make a mistake, click on Remove Square to go back a square.

'After completing a face, click OK to continue or Remove Square to go back. When you have completed the visible portion, the cube will rotate slowly, in fact very slowly, since I can't do machine code. If you tend to fall asleep at this point, you can select Fast Rotation from the main menu. A new, blank face will come into view - rotate your cube correspondingly and continue. (If you find using the mouse slow, press 1-6 to enter the colour, Enter/Return for OK, and Delete to Remove Square.)

'When you have entered the last colour there will be a pause, and then you are returned to the Desktop. A window will have opened, containing a picture of the cube, and a strange sequence of letters and symbols alongside. Believe it or not, this is the solution. Clicking Adjust on the icon bar icon opens the Solution window.

'The solution consists of a string of letters each followed by a symbol (+ - or 2). Each letter-symbol pair represents a single turn of a face. The letter represents a face: L (left), T (top), F (front) R (right), B (bottom, *not* back) and P (posterior, i.e. back). The three symbols represent:

+ : 90 degrees (one quarter turn) clockwise rotation. Faces are rotated clockwise as if the face in question is facing you. The six clockwise turns are shown in figure 1. Take careful note now, and whenever you use *Rubix*, which way clockwise is for each face.

- : 90 degrees (one quarter turn) anticlockwise rotation. This is simply a turn in the opposite direction to that for a clockwise rotation.

2 : 180 degrees (one half turn) rotation.

'So, for example "L+R-F+B2" means turn left face 90 degrees clockwise, turn right face 90 degrees anticlockwise turn front face 90 degrees clockwise then turn bottom face 180 degrees.

'The notation described above was designed by James G Nourse, An alternative, used frequently in Scientific American, was designed by David Singmaster. If preferred, select Singmaster from the Notation sub-menu. It is perhaps more common, but in my opinion not as plain. It works as above, except U = top (up) face, D = bottom (down) face, B = posterior (back) face, ^{2} = half turn, $^{-1}$ = anticlockwise quarter turn. A letter on its own represents a clockwise quarter turn.

'The six colours on the faces of a Rubik's Cube are usually red, green, yellow, blue, white and orange. Selecting Palette From File allows the six colours to be defined by colours 1-6 in the file *!Rubix.!Help.docs.!Palette*. Edit with *Palette* to match your cube's colours and re-save.'

Bar code

Author: Phil Norman

Last year, the cover disc featured a soundtracker player called *Queue The Music* (*QTM*). This could play all sorts of formats of sound tracker files and came complete with a handful of utilities that could display oscilloscopes and level meters and so on.

Phil Norman has sent us an update to one of the *QTM* accompaniments – *VUBars2*. To see it in action, load the *QTM* tracker module and start a tune playing. Now run Phil's prog. It works in Mode 13 and is mainly ARM-coded for speed.

Also check out the Public Domain page for even more useful front ends for QTM.

Space Ace

Author: Justin Fletcher

The first of two utility from ace patcher Justin Fletcher. This little offering allows you to enter spaces in filenames. These are then magically converted into hard spaces (which, as you know, can be typed with Alt-Space) before a file is saved.

To install the patch, which takes the form of a module, click on *!SpaceFile*. The module simply installs a filter which looks out for DataSave events and swaps characters accordingly.

To re-assemble the patch module, click on *!Create* inside the application directory. You have the option of getting the patch to swap underlines for hard spaces too.

Taking to task

Author: Justin Fletcher

Patch two from **Justin Fletcher** provides a task killer for pre Risc PC machines. Install by double-clicking on *TaskKill* – this installs the TaskKiller module which does the patch.

'Sometimes tasks get out of hand and need to be put down without resetting the computer. On the Risc PC, this is easy; just press Alt-Break.

However, on earlier machines this cannot be done and an application which has hung needs to have the plug pulled by Ctrl-Break – rather drastic.'

TaskKill provides a better solution, without resorting to resetting the machine. The keys used are:

RISC OS 3.11: press RH Alt-Break to kill the current task.

RISC OS 3.00: press RH Alt-Scroll Lock to kill the current task.

On either: press RH Alt-Esc to generate error; press RH Alt-Keypad * to start a command prompt.

Justin recommends that you try using the 'generate error' key first – this will exit most tasks. If this fails, try killing the task proper. Both keys should be looked upon as 'last resorts' and not the recommended way of exiting applications. Having successfully stopped a task, save any unsaved data and reboot if possible.

Never use this when the Desktop is working normally – random tasks will quit.

The *command prompt key can be used from anywhere except in the Desktop (where you don't need it). Don't use any * commands that may affect the top level application.

PC Keys

Author: Colin McEwan

If like me you have to use Arc and PC keyboards during the day, you'll be well aware of the annoying little differences between them. In particular, the Delete and End keys cause no end of strife, and it can take some time to readjust with each change of machine.

To the rescue comes Colin McEwan with a small and effective module, *PCKeys*. When installed, this simply makes the keys in question behave as they do on PCs.

If you want to install the module permanently, copy it into the *PreDesk* or *Tasks* directory in *!Boot.Choices.Boot* or include an **RMLoad** in your *!Boot* file. Risc OS 3 is required for this patch.

The program uses a filter to intercept WIMP key presses. The matter is made slightly more complicated because there are two keys on the 'normal' Arc keyboard which can be used to delete left – Delete and Backspace. Therefore, a further bit of interception – in the shape of the key pressed event – must be done to register which key actually caused the deletion so the correct replacement can be performed. By the way, just **RMKill** the module to reset the keyboard.

*QUIT

All programs, large or small, hints, tips and anything else you fancy sending us are most welcome. Post them to:

*INFO, *Acorn User*, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP

or, if your submission is 100K or less, e-mail us (including your real address please) at:
starinfo@idg.co.uk

You needn't include a letter but do please put your name, address and program title on every disc and include a text file containing at least your name, address, disc contents and program details. An SAE will ensure your discs are returned and any other instructions, diagrams, saved screens etc are much appreciated. If you have submitted your program anywhere else, please let us know.

Compatibility table

Program	RISC OS 2	RISC OS 3.1	RISC OS 3.5+
Curlicues	Yes[1]	Yes	Yes
Director patch[2]	No	Yes	Yes
ARMovie	No	Yes	Yes
SpaceFile	No	Yes	Yes
TaskKill	No	Yes	Yes[3]
Decide	No	Yes	Yes
VUBars2[4]	Yes	Yes	Yes
Foglia2	Yes	Yes	Yes
RevMouse	Yes	Yes	Yes
Rubix	Yes	Yes	Yes

[1] Run the Mode 12 versions.
[2] Needs *Director* from the October 1995 disc.
[3] Runs, but isn't necessary on RISC OS 3.5+.
[4] Needs *QTM* to run.

Free Ads

• A3000 LC, 2Mb RAM, RISC OS 3.1, stereo colour monitor, 120Mb HD (over 20Mb PD installed), video digitiser, joystick, pres system housing + plinth. £425. Tel: (01628) 31072.

• Acorn A3000 Learning Curve, 2MB RAM, 20Mb Ext. HD (doubled to 40Mb), Ext. 2nd 3.5 FD, 14in stereo colour monitor, PRESS stand. £380 ono. Tel: (01952) 581790.

• For sale. 50 x 3.5in disks 10.00 includes labels. Tel: Matthew on 0181-523 8058 (daytime) or 0973 301882 (evenings).

• Easiwriter Professional, version 3.16 with manuals, £85. Acorn Advance, version 1, £35. MacFS Light, version 1.04, £30. Prices incl. postage and packaging. Phone 0131-447 8624.

• Style + Loaders + Savers, Euclid 2, Interdictor 2 + Olympics, lots of PD + cover discs, £65 ono. Monochrome hand scanner (external podule), £50 ono. £100 for everything. Phone: 0151-520 6700.

• A5000, 4Mb RAM, 250Mb HD, RISC OS 3.1, Multisync monitor AKF18, £650 ono. Vision 24 digitiser (colour), £50. LC Scanlight 256, £90. Cumana Oscar CD-ROM drive, £100. Impression Style, £50. Tel: Oxford 326641.

• Acorn A3000, with Acorn colour monitor. Upgraded to: 4Mb RAM, RISC OS 3.10, 40Mb hard drive, also serial upgrade. Complete with manuals and RISC OS 3 Apps discs, £350 ono. Tel: (01296) 714280.

• A3000, RISC OS 3.1, 4Mb RAM, 30Mb hard disc; Serial port, Philips CM8833-II monitor. All boxed, with manuals etc, £400. 9 pin Epson printer, £60. Genesis II, £50. 'File Handling for All' book, £5. Tel: (01908) 616935 (after 5pm and weekends).

• BBC B Watford DFS. Wordwise, Viewstore Beebcalc, disc drive, colour monitor, excellent condition, 80+ discs (games, educational, languages), many books, and more. Tel: Norman 0181-950 4973 (evenings).

• Amstrad DMP 2000 9-pin dot matrix printer plus manual, excellent condition, £35. Ring 0181-579 2652 (daytime) or (01494) 875492 after 7pm.

• A3000 4Mb, 330Mb HD, OS 3.1, ARM 3, Multisync monitor, HP500C printer with new cartridges, all manuals, much software, £720 ovno. Tel: (01978) 751673.

• 120Mb ICS internal hard drive for A3000/3010/3020. IDE interface, as new, no defects. RRP: £217, sale price: £100. Tel: Thomas 0973 718532 or email: t.daly@ucl.ac.uk.

• A5000, 4Mb RAM, 170Mb IDE Hard DIsc, 14in Multiscan monitor and loads of software, £600 ono. Tel: (01703) 364597.

• Risc PC 600, AKF 60, 4Mb RAM, 1MB VRAM, 210Mb HD, CD-ROM, plus manuals and Acorn Advance. Hardly used. £900 ono. Tel: (01460) 74302.

• A3000, ARF 12 monitor, 4Mb RAM, 46Mb SCSI hard disc, manuals, First Word Plus, PC Emulator, £550 ono, buyer collects. Tel: (01252) 593502.

• For Sale: Hero Quest, Fun School 2, under 6s. £5 each. Wimp Game, Powerband, Drop Ship, £7.50 each. All plus carriage. Tel: James on (01252) 593502.

• 33MHz Risc PC 600, 4Mb + 2Mb VRAM, 425Mb HD, Quad speed CD-ROM drive, 16-Bit Sound, AKF85 17in monitor, PC 486 card, 4 months old. Student needs money! Cost over £2100, accept £1850 ono. Tel: Malcolm on 0161-224 1177 (Room 2/13)

• A420/1, 50Mb hard disc, 4Mb RAM, Risc OS 3.10, Acorn colour monitor plus various games and applications. Good condition. £250 ono. Tel: (01223) 812503.

• Risc PC 600, 17in AKF 85, 8Mb RAM, 2MB VRAM, 420Mb HD, CD-ROM, manuals, not used - genuine reason for sale. Must go! £1500 ono. Tel: (01746) 765732.

• Wanted: 4 to 8Mb upgrade for A5000. Phone (01703) 464248 (evenings).

• Wanted: Cassette games for the Acorn Electron plus details of shops I can buy them from. Tel: Steve (01452) 531058.

• Games! Pandora's Box, £8, Carnage Inc, Demon's Lair, £12, Haunted House, Break 147/Superpool, Birds of War, Real McCoy 3, Magnetic Scrolls collection, £15. All boxed, as new. Tel: (01629) 732553.

• For sale: Saloon cars deluxe, £14, Saloon cars deluxe extra courses, £6, Cataclysm, £6, Pandora's Box, £8, X-fire, £5. Tel: Matthew after 5pm (01993) 830374.

• A5000, 405Mb HD, 4Mb Multisync, Publisher, Genesis, Pro Poster, PC Emulator, 600 Fonts, vast PD, £825. Tel: (01424) 719569 or (01271) 850355.

• Acorn A3010, 2Mb RAM, 170Mb HD, 2 game pads, sound sampler, lots of software. All boxed in ex. condition. £350 ono. Tel: (01326) 318022.

• A5000, 4Mb RAM 80Mb Hard Drive, RISC OS 3.1, Multisync monitor, 3.5 & 5.25 floppy drives, PC Emulator, lots of software, excellent condition, boxed & manuals. £650. Tel: (01892) 853515 (Kent).

• Acorn magazines - Acorn Computing (32 issues plus 37 disks), Archimedes World (37 issues plus 59 disks). Offers. Tel: (01404) 850755.

• For sale: Swiv, £5. Cannon Fodder, £15. Dune, £15. Will swap. Tel: William (01228) 70120 between 4.30pm and 10pm.

• A5000, 4MRAM, 160MHD, monitor. Software(original discs, manuals): Impression Publisher, Pipedream4, Personal Accounts3, Lemmings 1+2, Lotus Turbo, Populous, Bridge + many more. £650 the lot. Tel: (01926) 817389 (Warks).

• Wanted: 'The Archimedes games writers manual'. Price open to negotiation. Tel: (01776) 703138.

• Acorn A4000, recently upgraded to 4Mb of RAM, 80Mb hard drive, fast ARM250 processor, excellent condition, £500 ono. Tel: (01525) 861050 after 4pm , or weekends.

• Risc PC 600, 5Mb, 210HD, CD-ROM, genuinely as new, all manuals, boxes, etc. £1000. Includes Sim City 2000, Burn Out. Tel: (01905) 22865.

• Fully specified mutimedia 10Mb Risc PC 600 including CD-ROM drive, 16 bit sound and 486 PC card. Plenty of quality software on disc and CD-ROM, £1500 ono. Tel: (01909) 515507 (South Yorkshire).

• 440/1, ScanLight Plus with motorised drive, Laser Direct Printer, manuals and software, £750. Tel: 0181-653 6075.

• 4Mb upgrade for A310, perfect condition, £40 ono. Midi board for A310, £15. Tel: (01246) 557946.

• Archimedes software for sale. Personal Accounts version 3, £10, Home Accounts, £7, Minerva business accounts - sales and purchase ledger, £10 each, Multistore database manager, £10, Phototouch, £10, Magnatoids, £7, Real time solid modeller, £7. All with original manuals. Tel: (01246) 557946.

• Roland SC-55 sound module. Mint condition, complete with box and manuals. £250+, offers welcome. Ideal for Sibelius7 and PC card. Call James for details (01225) 833569.

• BBC View WP ROM + manuals, £20. Archi to BBC serial link for transferring old sofware, £9. Micro User mags, Feb 91 to July 92, £5. Tel: (01580) 752929.

• Free Atari 800XL, 33 games + joysticks with purchase of Acorn RISC OS 3.0 with Art Pack, Lemmings, Flashback and other games, £200. Tel: (01827) 282187 - Tamworth area.

• All for an A4000. 80Mb hard drive, £40. 486, 4Mb PC card, £120. Cumana Oscar Parallel port CD-ROM, £100. Tel: 0121-311 0318.

• A3010 2Mb 60Mb HD, joystick, many games including Flashback, Crystal Maze, Magic Pockets, Lemmings, Kid Pix and some educational games, £150. Tel: (01438) 725641.

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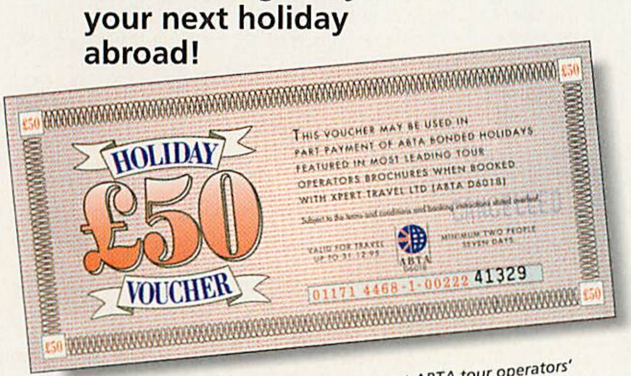
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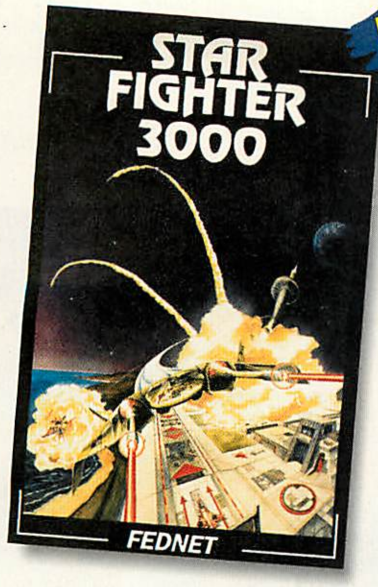
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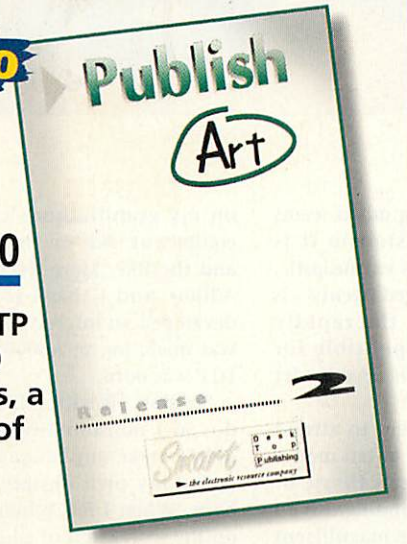
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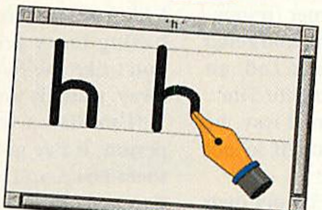
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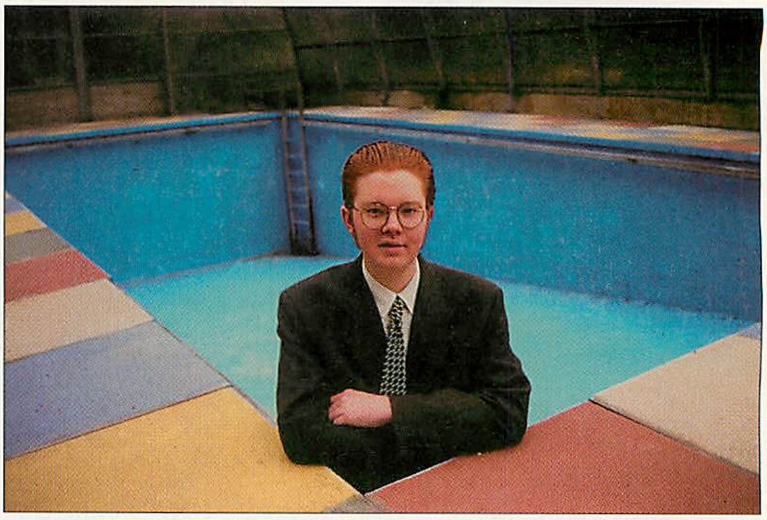
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The Regan files

Jim Parry



In these days where the prevailing mood seems to be the same tired old pessimism it is refreshing to meet someone who is enthusiastic, energetic and young. Jim Parry – aged twenty – is the 'proprietor' of Smart DTP, the rapidly growing one-man company responsible for *PublishArt*, runner-up in the *Acorn User* reader awards for Best Product.

The Regan Files expeditions seem to attract unusual weather, visibility is down to ten metres in a fog descended from Hammer's House of Horrors and as I drive up a long winding drive I imagine organ music playing as the magnificent castle-shaped bulk of the house Edgehill looms.

'I don't want people to get the wrong idea about this house and think I have lots of money,' Jim explains. 'I only have one room in it as my office and I share the bathroom. I am a man of modest taste, I don't even own a car; its a bicycle for me'.

The family inherited the house from Jim's grandfather, unfortunately there isn't the money to renovate it to its former glory at the moment. The quarter of the house that Jim has access to contains a darkroom, a grand piano and a bar painted in a kitsch Paris street-style. It's quite a hot bed of inspiration and creativity; next door is his brother Tim Parry and his partner (responsible for *Starfighter 3000* which Jim marketed successfully for them) and upstairs is Tod, an artist and graphic artist who is working for Tim.

Jim hated being educated in a formal way, he only enjoyed rural science lessons and left school straight after GCSEs.

'I wanted to be self-employed, to be my own boss. My first venture into the world of business was Smart Free Range Products. I had six chickens who had the run of the back garden, and I made leaflets on an A3000 which my family just happened to have. My mum's friends started to buy and it was beginning to be very successful, but six chickens were not enough to fill the demand and I did not have room for any more, so I let them go to very good homes'.

'My next venture was Smart Gardening, based on my grandfather's collection of gardening equipment: ride-on mowers, a miniature tractor and the like. More flyers were made on the old A3000, and I think it was about then that I developed an interest in DTP-ing. Enough money was made for an A5000 to be bought and Smart DTP was born.

'To start off with I did not really know what to do, so I marketed other people's products. I didn't make any money out of this, so I started doing my own designing and *PublishArt* was born. When I left school I thought I could take on the world, but of course you can't do it. I had a lot to learn.'

Jim now likes to see himself as an ideas man. He can't program, doesn't understand how his new Risc PC 700 works but *does* know how to use the programs on it effectively. Through this he has found his niche in the Acorn market. He feels that there are a lot of programmers who are good at programming but lack creativity, and he hopes he can fill this gap. 'By the year 2000 I hope to be employing two people, and of course renovating this place'.

With a choice of anything on the menu for lunch Jim chooses a simple burger. 'My taste in food is like my idea of a computer, I know what I like and so buy just that. There is no point in having fancy pretensions and finding out you don't like the food and it only has to be thrown away, waste is something I hate.

'My taste in food is like my idea of a computer, I know what I like and so buy just that.'

'I'm also a wickedly 'Buy British' sort of person. If I've got a choice of two products – call them Pen A and Pen B,' Jim expounds, producing two pens to illustrate his argument, 'where Pen A's 40 quid (British), and Pen B's 20 quid (French, German, USA), I'd buy that one – Pen A. I don't care if it costs me an arm or a leg, I like to use this because this is made in our country.'

There's more of a twinkle than a tear in his eye as he says this. Jim has lifted my mood and my spirits about the state of Acorn market, I wish he could do the same for the fog.

Jill Regan

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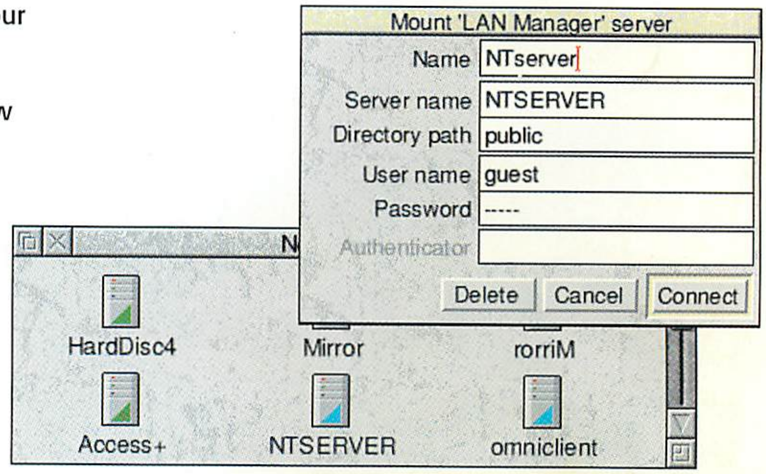
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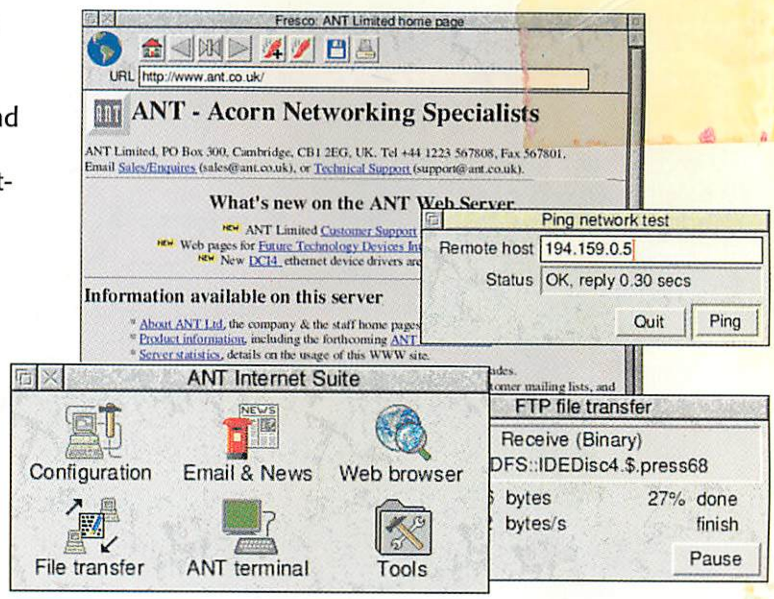
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